Abstracts of the
MASCC/ISOO 2016 Annual Meeting

Supportive Care in Cancer

MASCC/ISOO

ANNUAL MEETING ON
SUPPORTIVE CARE IN CANCER

Adelaide Convention Centre, Adelaide, Australia
23-25 June, 2016

Supportive Care Makes Excellent Cancer Care Possible
Explanation of the Abstract Coding System

Each abstract type is assigned a special code:
- PS: Parallel
- IS: ISOO
- ePD: e-Poster Discussion
- eP: e-Poster
- PAT: Patient Seminar

The abstracts are presented in the following order with the below codes:

PS  Cardiac toxicity  PS001-PS002
PS  Care of cancer survivors – putting evidence into practice  PS003-PS004
PS  Challenges and solutions for cancer related fatigue  PS005-PS007
PS  Delirium in advanced cancer: state of the science  PS008-PS011
PS  Disparities in supportive care in cancer  PS012-PS014
PS  Dysbiosis in the gut: what is it and what does it mean for cancer patients? (Mucositis Study Group)  PS015-PS017
PS  Dyspnoea (Palliative Care and Respiratory Study Groups)  PS018-PS020
PS  Education and communication study group and palliative care study groups  PS021-PS023
PS  Educational Session: How to write a manuscript for supportive care in cancer (parallel session type)  PS024
PS  E-poster session: Role of yoga and complementary medicine in maintaining quality of life  PS025-PS027
PS  Geriatric assessment as a supportive care strategy in older adults with cancer  PS028-PS030
PS  Hair loss and scalp cooling: integrating state of science into practice  PS031-PS033
PS  Infection and immune reactions in checkpoint and PD1 inhibition (Neutropenia, Infection-Myelosuppression Study Groups)  PS034-PS038
PS  Is e-communication critical to the delivery of cancer care?  PS039-PS041
PS  Maintaining bone health in cancer (Bone Study Group)  PS42-PS44
PS  Making Meaning, making special: a multi-media exploration of the role of the arts in cancer care  PS045
PS  Models of nutritional care in high risk cancer groups  PS046-PS050
PS  Nausea is the new black: innovative antiemetics  PS051-PS052
PS  Oral Proffered Papers  PS053-PS088
Paediatrics (Pediatric study group)

Palliative care pain management

Supportive care from the patient expert perspective

Supportive care in the Asia-Pacific region

Systematic review: update and outcomes measures (Oral Care Study Group)

Thinking and talking about survival time in advanced cancer

Toxicity of combined chemotherapy and radiotherapy

Young investigator Award Session

ISOO Session 2: From silos to symptom clusters: 30 years of the ISOO

Patient Seminar

e-Poster Discussion Session

Antiemetics

Bone

Cancer Pain

Education in Supportive Care

Fatigue

Geriatrics

Lymphedema

Mucositis

Neurological Complications

Neutropenia-Infections and Hematologic Toxicity

Nutrition and Cachexia

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THE VICTORIAN CANCER PATIENT EXPERIENCE SURVEY: ASSESSING EXPERIENCE ALONG THE CANCER PATHWAY

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2Cancer Council Victoria, Centre for Behavioural Research in Cancer, Melbourne, Australia

Introduction
Understanding the patient experience is important in assessing the delivery of safe, high-quality care within a health system. The Victorian Department of Health & Human Services commissioned a program of work to develop a methodology that assessed cancer patients’ care experiences throughout their care trajectory.

Objectives
To describe the development of a questionnaire to assess cancer patients’ experiences of care.

Methods
A questionnaire, developed through literature review and consultations with consumers and health professionals, was tested in two pilot studies (PS) involving 9 metropolitan and regional health services. In both studies, patients treated for cancer at participating health services were identified through the Victorian Admitted Episodes Database. Health services mailed questionnaires to patients. PS2 tested if this approach influenced response rates.

Results
A total of 1669 patients participated in the two pilots. Response rates were: PS1 45%; PS2 57%. Response rates were not influenced by survey approach. Results from the two PS include: between 77% and 88% of respondents were very satisfied with the care received for different treatment modalities and over 90% indicated they were always treated with respect and dignity.

Although information provision was generally reported as very good, results in the domain of communication and supportive care indicate a number of opportunities for improving post-surgical care and pain management, fertility concerns, access to clinical trials, emergency care and assistance with recovery.

Conclusions
The survey and methodology developed has proven valuable for capturing data on cancer patients’ care experiences for reporting at health service and statewide levels.

CANCER AND CARDIO-METABOLIC ILLNESS IN ELDERLY CANCER SURVIVORS – A SECONDARY ANALYSIS OF THE AUSTRALIAN LONGITUDINAL STUDY OF AGEING

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Introduction
Cancer is associated with higher prevalence of cardiometabolic illness but little is known about the direction of this association. The Australian Longitudinal Study of Ageing (ALSA) offers an opportunity to examine the health and lifestyle of older Australians over time with follow up of over 20 years.

Objectives
To examine the strength of the association between cancer and cardiometabolic illness and its direction in a cohort of older Australians.

Methods
We calculated relative risks of developing cancer or cardiometabolic illness based on cross tabulations of all-cause mortality rates at the last follow-up and when individuals developed either illness. A multivariate random effects regression model approach was used to determine potential predictors of cancer or cardiometabolic illness when the other was present.

Results
2091 individuals were followed up for 18 years (1992-2010). 726 developed cancer during follow-up and 1,548 developed cardiometabolic illness. The relative risk of developing cancer at the end of the follow-up was 1.26 (95% CI: 1.13 – 1.40) if prior cardiometabolic illness was present at baseline. The relative risk of developing cardiometabolic illness was 1.06 (95% CI: 1.03 – 1.10) if prior cancer was present at baseline. Mortality was highest for individuals who developed both cancer and cardiometabolic illness at the same time (82%) followed by those who developed cardiometabolic illness before cancer (80%) and then those who developed cancer before cardiometabolic illness (58%) (χ²=14.33, P < 0.01).

Conclusions
Cancer and cardiometabolic illness are common in older age and the presence of one is associated with higher likelihood of another.
PS003

PATIENT REPORTED RANKING OF LATE SYMPTOMS AFTER BREAST AND PROSTATE CANCER AND THEIR INFLUENCE ON SELF INITIATED NUTRITIONAL THERAPIES – THE BEDFORD REAL WORLD STUDY

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Introduction
This study ranked the severity of late toxicities in a large real-world cohort of men and women with breast and prostate cancer, then compared differences between those taking hormonal interventions (HI) or not.

Objectives
To evaluated whether ranked toxicities influenced the incidence of self-help nutritional strategies (NS).

Methods
Every patient with prostate and breast cancer, who were >6months post surgery, radiotherapy or chemotherapy were approached while they attended The Primrose Oncology Unit between Sept 2015 – Feb 2016. 830 (97%) completed a ranking questionnaire (480 men and 350 women).

Results
305 of 437 (70%) participants taking HI reported >1 late effects opposed to 88 of 393 (22%) who not taking HI (Chi² P= 0.002). The highest ranking symptoms in woman, in order of severity, were hot flushes, arthralgia, fatigue, mood change and weight gain and men hot flushes, fatigue, arthralgia, erectile dysfunction and weight gain except Afro-Caribbean men who ranked erectile dysfunction over hot flushes. Overall, 190 (54%) women with breast cancer and 309 (64%) of men with prostate cancer took SHNS. However, among the 202 women with symptoms, 159 (79%) took SHNS versus 30 (21%) without symptoms (Chi² p=0.003). In men, this difference was not seen in view of the significant proportion (60%) managed on active surveillance who reported taking polyphenol rich NS since the publication of the Pomi-T study.

Conclusions
This large study revealed that arthralgia and fatigue ranked more prominently than previously expected. For the first time, we have demonstrated that hormonal symptoms in women significantly increased to nutritional supplement intake.

PS004

THE IMPACT OF CHEMOTHERAPY ON COGNITIVE FUNCTION: A PROSPECTIVE, LONGITUDINAL COHORT STUDY IN TESTICULAR CANCER

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2Cognstate Limited, Research and Development, Melbourne, Australia
3Chris O’Brien Lifehouse, Medical Oncology, Sydney, Australia
4Peter MacCallum Cancer Centre, Medical Oncology, Melbourne, Australia
5University of Sydney, NHMRC Clinical Trials Centre, Sydney, Australia
6Monash University, Eastern Health Clinical School, Melbourne, Australia

Introduction
Neuropsychological assessments suggest chemotherapy may lead to cognitive impairment but causal links remain unclear.

Objectives
To address methodological limitations using a prospective longitudinal design examining under-researched chemotherapy regimens, appropriate controls, and adjusting for confounders.

Methods
This 16-centre, prospective longitudinal study accrued 145 patients with testicular cancer, comparing two groups with sufficient data; surgery only (n=41), and surgery + chemotherapy (n=61). Cognition was assessed using CogHealth; a 10-minute online playing-card tool that overcomes language limitations, assessment burden, and practice/ceiling effects. Quality of life, fatigue, anxiety/depression, and self-perceived cognitive function were also assessed. Linear mixed models compared changes from baseline (<6 months post-orchiectomy/pre-chemotherapy) to follow-up (12-18 months later).

Results
There were no significant differences between groups over time for the cognitive tasks of complex decision-making, visual learning, working memory, or visual attention. Self-perceived cognitive function matched measured performance. However, there were significant interaction effects; the chemotherapy group had a different trajectory.
over time compared to the surgery group for psychomotor function (covarying age, p<0.001) and for physical wellbeing (covarying radiotherapy, p=0.008). The chemotherapy group scored significantly worse than the surgery group at baseline on psychomotor function (p=0.03, d=−0.85), physical wellbeing (p<0.0001, d=−0.80), fatigue (p=0.01, d=−0.53), and anxiety (p=0.005, d=−0.80), with no significant differences at follow-up. For both groups, anxiety (p=0.03), functional (p=0.001) and emotional wellbeing (p=0.002) improved over time.

**Conclusions**

Patients with testicular cancer evidenced no significant group differences for objective or self-reported cognitive function after 12 months, with only psychomotor function and physical wellbeing worse in the chemotherapy group at baseline.

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**PS005**

**IS THERE A ROLE FOR PSYCHOSTIMULANTS IN THE MANAGEMENT OF CRF**

F. Raiti1, S. Fatigoni1, G. Fumi1
1S.Maria Hospital, Medical Oncology, Terni, Italy

Psychostimulants have been evaluated in thirteen randomized phase II and III double-blind, placebo-controlled studies in patients (pts) with CRF. Methylphenidate and dexamethasphenidate are central nervous system stimulants, structurally related to amphetamines with a short half-life and a rapid onset of action. A meta-analysis including five studies published before October 2009 (4 with methylphenidate and one with dextroamphetamine) showed a small but statistically significant improvement in fatigue score with respect to placebo without any significant difference in toxicity. However, there was a significant clinical heterogeneity among these studies (type of pts, type of neoplasia, stage of disease, etc.) and consequently the interpretation of this result is difficult. Subsequently, five other studies evaluating methylphenidate have been published. Overall, efficacy was not shown in 7 of 10 studies and therefore efficacy of psychostimulants remains doubtful.

On the basis of positive results observed in open-label pilot studies, modafinil and armodafinil, a non-amphetamine-based psychostimulants, have been evaluated in three double-blind studies and again there was no superiority with respect to placebo in the control of CRF.

In conclusion, only 3 of 13 studies showed efficacy of psychostimulants for CRF. On the other hand, considering that in a subgroup analysis of two other studies a significant improvement in pts with more severe fatigue was shown and tolerability was acceptable, a therapeutic attempt with psychostimulants could be justified. The fact remains that more well planned studies are necessary to identify the role of psychostimulants in the treatment of CRF.

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**PS006**

**POOLED EFFICACY DATA FROM ROMANA 1 AND ROMANA 2, TWO PHASE 3 TRIALS OF ANAMORELIN IN ADVANCED NON-SMALL CELL LUNG CANCER (NSCLC) PATIENTS WITH CACHEXIA**

D. Curroy1, J. Temel2, A. Abernethy3, J. Friend4, R. Giorgino5, K.C. Fearon6

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2Massachusetts General Hospital Cancer Center, Hematology/Oncology, Boston, USA
3Flatiron Health, New York, USA
4Helsinn Therapeutics US Inc., R&D, Iselin, USA
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6Royal Infirmary, Department of Surgery, Edinburgh, United Kingdom

**Introduction**

Advanced cancer patients frequently experience anorexia/cachexia, which is associated with reduced function and quality of life. ROMANA 1 (NCT01387269; N=484) and ROMANA 2 (NCT01387282; N=495) were randomized, double-blind, phase 3 trials of ananmorelin, an oral ghrelin receptor agonist, in NSCLC patients with cachexia. Outcomes from each study were previously reported; briefly, over 12 weeks ananmorelin was well tolerated and significantly increased vs placebo lean body mass (LBM) and fat mass (FM), and improved anorexia symptoms, while changes of handgrip strength (HGS) were not different.

**Objectives**

To assess pooled efficacy data from ROMANA 1 and ROMANA 2 studies.

**Methods**

Stage II/IV NSCLC patients with cachexia (≥5% weight loss during prior 6 months or body mass index <20 kg/m²) were randomized (2:1) to daily oral 100 mg ananmorelin or placebo for 12 weeks. Endpoints included changes in LBM, FM, HGS, and changes in self-reported anorexia/cachexia symptoms. We present the pooled efficacy data of a post-hoc analysis (N=829) from both trials.

**Results**
Compared with placebo, anamorelin-treated patients significantly increased LBM, appendicular LBM, and FM, and a greater proportion of patients increased these body composition parameters (Table). The anamorelin group also significantly improved anorexia symptoms; more patients achieved the minimally important difference compared with the placebo group. No differences in HGS were observed.

Conclusions
Anamorelin has anabolic activity while improving symptom burden in patients with NSCLC. A significantly greater proportion of patients increased LBM and FM and improved anorexia symptoms in the anamorelin arm versus the placebo arm.

PS007

FATIGUE IS ASSOCIATED WITH IMPAIRMENTS IN INSTRUMENTAL ACTIVITIES OF DAILY LIVING (IADL) AND DECREASED PHYSICAL PERFORMANCE IN OLDER CANCER PATIENTS

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2. University of Rochester, Medicine, Rochester- NY, USA
3. University of Rochester, Behavioral Medicine, Rochester- NY, USA
4. University of Chicago, Medicine, Chicago- IL, USA

Introduction
Despite the prevalence and known negative effects of fatigue on cancer patients, we have a limited understanding of its consequences in older cancer patients. We hypothesized that fatigue in geriatric cancer patients would result in significant difficulties in physical performance and the ability to complete IADL.

Objectives
Our primary aims were to: 1) compare those with and without fatigue on physical performance and IADL and 2) model the relationship between fatigue, physical performance and IADL.

Methods
In this cross-sectional geriatric–oncology clinical sample (mixed tumor types, 74% Stage III/IV, n=409), all consenting patients reported fatigue as present or absent. The Short Physical Performance Battery (SPPB), an objective assessment of gait speed, lower extremity strength, and balance was measured (0-12). IADL are self-reported as the ability to perform 7 functional activities. Between group differences were modeled using multiple regression.

Results
Mean age was 81±6.7 years and 41% were female. Overall, 61% (n=249) reported fatigue. Patients with fatigue had worse mean SPPB scores (7.34 vs 6.11, p<.001) and significantly greater impairment in 5 of 7 IADL. Regression analysis for IADL revealed: R²= 38, both fatigue (p<.02) and SPPB scores (p<.001) were significant predictors.

Conclusions
Fatigue is associated with impairments in instrumental activities of daily living (IADL) and decreased physical performance in older cancer patients.

PS008

INTRODUCTION

D. Hui

1. University of Texas MD Anderson Cancer Center, Houston, USA

Delirium is the most common and distressing neuropsychiatric syndrome in cancer patients, affecting over 90% of patients before death. We will introduce the speakers who will be providing an up-to-date review of delirium in cancer patients, including its prevalence, pathophysiology, assessment, impact, pharmacologic and non-pharmacologic interventions.

PS009

PHARMACOLOGIC MANAGEMENT: AN EVIDENCE-BASED UPDATE

D. Hui

1. University of Texas MD Anderson Cancer Center, Houston, USA
Delirium is the most common and distressing neuropsychiatric syndrome in cancer patients, affecting over 90% of patients before death. The cardinal features include acute confusion, altered levels of consciousness, restlessness, decreased attention and cognition, and perception abnormalities that fluctuate over the course of the day. The presence of delirium is associated with significant distress in patients, patients' caregivers and professionals, and may negatively impact symptom management, communication, and decision making. Delirium is associated with decreased survival. The focus of this presentation is to review the evidence to support various pharmacologic interventions for delirium in cancer patients, including neuroleptics (e.g. haloperidol, risperidone, quetiapine, olanzapine, chlorpromazine), benzodiazepines (e.g. midazolam, lorazepam), and other agents (e.g. dexmedetomidine). Specifically, we shall discuss the design of randomized controlled trials investigating these agents, provide a critical appraisal, and review the study outcomes. We will also discuss ongoing and future research to better address many important questions on this topic. At the end of the session, we will have time for active discussion among participants and panelists.

PS010
STRATEGIES FOR ONCOLOGY CLINICIANS COMMUNICATING WITH FAMILY MEMBERS: DEVELOPMENT AND DELPHI CONSENSUS EVALUATION
R. Laidsaar-Powell, P. Butow, I. Juraskova
1The University of Sydney, CemPED- School of Psychology, Sydney, Australia

Introduction
Few strategies are available to guide oncology clinicians when communicating with the patient’s family. Evidence-based strategies may be valuable as some family members report negative clinician behaviours (e.g. ignoring the family), and some clinicians also report challenges (e.g. negotiating conflicting patient-family treatment wishes, managing dominant families).

Objectives
The aim of this study is to develop and evaluate evidence-based, practical strategies for oncology clinicians to manage and enhance family involvement in cancer consultations.

Methods
Development of strategies was informed by our extensive research program as well as a review of legal and professional publications. Draft strategies were reviewed by 15 international academic/clinical experts who provided feedback in a focus group or interview. Revised strategies were evaluated through an online survey using a Delphi consensus approach, where n=35 international academic/clinical experts rated their agreement/disagreement with the proposed strategies. Items achieving over 70% agreement were considered definite strategies and removed from the next round. Two rounds of consensus surveys were required.

Results
To enable Delphi consensus evaluation, the strategies were transformed into 45 statements categorised within 13 key strategies. 42/45 statements successfully reached the 70% agreement rate in the first round. The three statements which failed to reach agreement were revised based on expert feedback and re-evaluated.

Conclusions
Development and evaluation of practical strategies has the potential to improve patients’ and families’ experiences in cancer consultations and to provide guidance to oncology clinicians navigating these complex encounters. In the next phase of research, the strategies will be incorporated into a communication skills module and piloted.

PS011
ENHANCING BEDSIDE NURSES’ PALLIATIVE COMMUNICATION SKILL COMPETENCY: AN EXEMPLAR FROM THE UNIVERSITY OF CALIFORNIA ACADEMIC HOSPITALS’ QUALITY IMPROVEMENT COLLABORATIVE
D. Boyle, M. Grywalski, J. Noort, J. Cain, H. Herman, W. Anderson
1University of California Irvine- Chao Family Comprehensive Cancer Center, Nursing Research- Quality & Education, Orange, USA
2University of California Irvine Health, Nursing Research- Quality & Education, Orange, USA
3University of California Davis Medical Center, Palliative Care, Sacramento, USA
4University of California San Diego Medical Center, Palliative Care, San Diego, USA
5University of California San Francisco Medical Center, Palliative Medicine, San Francisco, USA

Introduction
Heightened treatment intensity has prompted increasing critical care admissions for oncology patients. Overall, nurses are the most constant
palliative care in India less than 1% of its population has access to pain relief and palliative care. Per capita consumption of opioids has been on a plateau for many years since 2007. There are altogether about 500 palliative care centres in the country of which about 100 of them are in the southwestern state of Kerala which has only 3% of the population. These centres are largely in the metropolitan cities. In the recently published quality of death index by the WHO, India ranks a dismal 67 of the 80 countries listed. Several important steps need to be taken to improve this scenario.

1. The Government needs to implement a centrally led uniform policy to make opioids available to those in need.
2. Adequate funds need to be allocated to make palliative care resources available in every district.
3. Palliative care needs to be introduced into the undergraduate curriculum of medical, nursing and allied health courses.
4. Create greater awareness about supportive care in the community.

Continued advocacy by the palliative care community both within India and internationally is required to see that appropriate care reaches people in desperate need.

PS013

THE NATIONAL ABORIGINAL AND TORRES STRAIT ISLANDER CANCER FRAMEWORK

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1Cancer Australia, Cancer Care, Sydney, Australia
2Cancer Australia, Cancer Australia, Sydney, Australia

Introduction

Indigenous Australians are 30% more likely to die from cancer than non-Indigenous Australians. The cancer mortality gap between Indigenous and non-Indigenous Australians increased significantly between 1998 and 2012.

Objectives

Cancer Australia aimed to develop an evidence-based, nationally agreed strategic framework to guide future directions in cancer control for Indigenous Australians.

Methods

The Framework development was underpinned by a collaborative, evidence-based and consultative approach. Cancer Australia partnered with Menzies School of Health Research to undertake a comprehensive systematic review of the available evidence including peer-reviewed journals and grey literature across the cancer continuum, and current population health data. Over 500
individuals and organisations were engaged through an extensive national consultation process, including workshops, online surveys and a national forum.

Results
Seven priority areas were identified which, based on the evidence, will have the greatest impact on improving cancer outcomes for Indigenous Australia. Areas of focus include:
1. Improving knowledge, attitudes and understanding
2. Focusing prevention activities
3. Increasing access to and participation in cancer screening
4. Ensuring early diagnosis
5. Ensuring optimal and culturally appropriate care
6. Ensuring families and carers are supported
7. Strengthening services and systems to deliver good quality, integrated services.

Conclusions
The development of the Framework has led to the gathering of new evidence, greater engagement in national cancer control and identification of seven national priorities that would have the greatest impact to address disparities in cancer outcomes experienced by Aboriginal and Torres Strait Islander people in Australia.

PS014

SUPPORTIVE CARE NEEDS OF ABORIGINAL PEOPLE IN SOUTH AUSTRALIA: GAPS, BARRIERS, ENABLERS AND STRATEGIES IDENTIFIED IN THE CANCER DATA AND ABORIGINAL DISPARITIES (CANDAD) NARRATIVES
R. Reilly1,2, R. Micklem1,2, H.B. Stewart1, P. Yerrell1,2, S. Miller1, M. Cargo2, K. Morey1, A. Brown1,2
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2University of South Australia, Centre for Population Health Research, Adelaide, Australia

Introduction
Aboriginal and Torres Strait Islander Australians suffer a greater burden of cancer mortality than non-Indigenous Australians, despite similar cancer incidence. The drivers of this disparity are not completely understood and may relate in part to features of the health system, including how well the supportive needs of Aboriginal people with cancer, their families and communities, are met. CanDAD is a community-governed, mixed-methods partnership project that aims to improve cancer care for Aboriginal people in South Australia.

Objectives
To understand barriers, enablers and gaps in supportive care for Aboriginal people with cancer in South Australia.

Methods
Narratives were collected from 27 Aboriginal cancer patients/survivors, 13 carers/family members and 22 service providers addressing three main questions: 1) What constitutes high quality, appropriate care for Aboriginal people with cancer? 2) What are participants’ concerns and priorities when interacting with the health system? 3) What are the gaps in care, as well as barriers and enablers of appropriate care?

Narratives were analysed for manifest and latent themes using an adapted patient pathway mapping tool and N-Vivo software.

Results
Supportive care needs and access varied according to region, stage in the pathway, cancer type and health literacy. The key role of Aboriginal staff, and in particular of Aboriginal Cancer Care Coordinators in enabling appropriate care for Aboriginal patients, was emphasized.

Conclusions
Findings pointed to a number of strategies that may improve access to appropriate supportive care for Aboriginal people. These will be incorporated into a participatory concept mapping process involving key stakeholders to identify priority actions for systems change.

PS015

PROBIOTICS TO PREVENT GASTROINTESTINAL TOXICITY FROM CANCER THERAPY: AN INTERPRETIVE REVIEW AND CALL TO ACTION
M. Ciombaj

Diarrhea resulting from small intestinal mucositis occurs commonly during cytotoxic therapy for abdominal and pelvic malignancy. Radiation induced collateral damage to the normal small intestinal epithelium is a primary driver of mucositis, which is augmented by adjuvant chemotherapy. Symptoms can be severe and necessitate therapeutic delays, whereby reducing cancer cure rates. There is currently an unmet need for agents that could protect the intestinal epithelium from collateral damage during RT and reduce symptoms of mucositis. We previously found in mice that prophylactic administration of certain lactobacillus probiotic bacteria, including
Lactobacillus Rhamnosus GG (LGG), prevented radiation induced damage to the small intestinal epithelium. We also demonstrated that a commercially available freeze-dried form of LGG (Culturelle) offered similar intestinal radioprotection. These findings led us to hypothesize that oral supplementation with LGG will reduce treatment related GI toxicity by protecting the intestinal epithelium in patients exposed to cytotoxic therapy for GI cancer. Guided by our preclinical model findings and detailed analysis of prior clinical trials from outside the US, we developed a clinical trial to test this hypothesis in a well-defined population of patients with gastrointestinal (GI) cancer receiving RT and fluoropyrimidine based chemotherapy. To initiate a probiotic clinical trial in the US, we were required to pass several regulatory steps. To meet FDA requirements for an IND, we performed independent verification of LGG and placebo products for purity, potency and identity. Based on IND stipulations and human research protection office (IRB) guidance, we initiated a 20 patient Phase 1 open label trial of LGG with a primary endpoint of safety and tolerability in this patient population. Secondary endpoints include incidence of grade 2 or greater diarrhea by Common Terminology Criteria for Adverse Events (CTCAE) and functional quality of life based on the FACIT-D subscale score. As there are currently no predictive biomarkers to determine which patients are at greatest risk for developing treatment related mucositis, we are collecting fecal and serum biospecimens at multiple strategic time-points. These samples are being analyzed for markers of intestinal inflammation (fecal calprotectin), intestinal epithelial cell viability (serum citrulline) and microbial genomic composition (16S rRNA). Biomarker results will be evaluated for correlation with changes in clinical symptom indices. Historical data trials evaluating probiotics as GI cytoprotectants during cancer therapy as well as data from our trial will be presented.

PS016
THE SELECTIVE GLUCAGON-LIKE PEPTIDE-2 (GLP-2) RECEPTOR AGONIST, ELSIGLUTIDE, IS EFFECTIVE IN INHIBITING LAPATINIB-INDUCED DIARRHOEA IN AN ESTABLISHED RAT MODEL.

B. Mayo1, A. Wignall1, E. Bateman1, C. Pietra1, E. Lovati1, K. Secombe2, J. Shirren3, H. Wardill4, R. Stansborough2, Y. Van Sebille5, L. Ball6, D. Keefe2, J. Bowen7

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2University of Adelaide, School of Medicine, Adelaide, Australia
3Helsinn Healthcare SA, Research and Preclinical Development Department, Lugano, Switzerland

Introduction
Previous studies have demonstrated that GLP-2 agonists, like elsiglutide, can effectively inhibit chemotherapy-induced diarrhoea in rodent models (5-FU and irinotecan). Research investigating tyrosine kinase inhibitors (TKI), such as lapatinib, found that mechanisms underpinning development of diarrhoea and associated intestinal changes differ from those caused by conventional chemotherapy agents. Consequently, novel interventions are required to manage this dose-limiting side-effect.

Objectives
This study aimed to determine whether elsiglutide could effectively treat lapatinib-induced diarrhoea, in an established experimental TKI rat model.

Methods
48 male Albino Wistar rats were orally gavaged 500mg/kg lapatinib (or vehicle) daily for up to 28 days. The intervention, elsiglutide (or vehicle), was given concurrently over the 28 days, as either; 0.9mg/kg sc given 4 days/week or 0.45mg/kg sc daily. Rats were killed after 14 or 28 days, with blood and intestinal tissues collected for analysis.

Results
Lapatinib treatment was associated with moderate diarrhoea (62%), which was prevented by the addition of 0.9mg/kg (0%) and 0.45mg/kg (25%, P<0.001) of elsiglutide. Drug co-treated rats showed similar overall weight gain (56% both doses) to controls (66%), whilst lapatinib only rats gained 50%. Small intestinal wet weight significantly increased following the administration of 0.45mg/kg elsiglutide, (P<0.0001), alone and with lapatinib co-treatment, whereas co-treatment with 0.9 mg/kg elsiglutide was not associated with significantly increased small intestinal weights.

Conclusions
These preliminary findings indicate that elsiglutide is effective in inhibiting the diarrhoea induced by lapatinib. However, elsiglutide’s anti-diarrhoeal effects are not entirely correlated to its intestinotrophic actions. Investigation of elsiglutide’s other potentially protective pathways need to be conducted.

PS017
INVESTIGATING LAPATINIB-INDUCED DIARRHOEA IN A TUMOUR-BEARING RAT MODEL

W.N.I. Wan Mohamad Zain1, D. Keefe2, J. Bowen1, E. Bateman2
Dyspnea occurs in approximately 10%–70% of cancer patients and is one of the most feared symptoms. It is associated with decreased function, quality of life, and survival. Few therapeutic options are available for dyspnea, mainly because it is under-researched. Contemporary treatment with low-flow supplemental oxygen partially relieves the condition only in the minority of patients who are hypoxemic. In this presentation, we will discuss the mechanism, evidence and clinical applications of two enhanced oxygen delivery modalities, non-invasive ventilation (NIV) and high flow oxygen (HFOx), in the management of dyspnea in cancer patients. Non-invasive ventilation provides both oxygenation and positive airway pressure which could assist with ventilation. HFOx delivers up to 60 L per minute of heated humidified oxygen through a nasal cannula to maximize oxygenation. In addition to oxygenation, HFOx may improve ventilation by reducing nasopharyngeal dead space, augmenting end-distending pressure, reducing breathing effort by decreasing inspiratory resistance and increasing airway conductance, decreasing the metabolic cost of breathing, and stimulating the trigeminal and glossopharyngeal nerves through a high-flow mechanism and the delivery of humidified and heated gas. Both NIV and HFOx are offered in the critical care, emergency room, post-operative, acute care, and to a certain extent, community care settings to improve patient outcomes. We will focus our discussion on several prospective clinical studies and randomized controlled trials studies examining their role in the palliation of dyspnea. We will end by discussing future research directions. The last 5 minutes of this session will involve active discussion among participants and panelists.

PS018

BEYOND OXYGEN: NON-INVASIVE VENTILATION AND HIGH FLOW OXYGEN

D. Hu1

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Introduction

Lapatinib, an ErbB1/ErbB2 tyrosine kinase inhibitor, is effective in breast cancer treatment but is associated with diarrhoea. ErbB1 inhibition by lapatinib may interfere with the normal functioning in the intestines. A link between ErbB1 expression and diarrhoea was not found by these studies. However, there may be downstream or other pathway effects related to the diarrhoea.
This study examined the association between oncologists’ EOL care attitudes and (1) timely specialist palliative care referral, (2) provision of supportive care, and (3) EOL cancer treatment decisions.

Methods
We randomly surveyed 240 oncology specialists at our tertiary care cancer center to assess their attitudes toward EOL care using a composite score derived from a qualitative conceptual framework (Jackson et al. where 0=uncomfortable, 8=highly comfortable with EOL care). We determined the association between this composite score and the clinicians’ rating of their own specialist palliative care referral, provision of supportive care, and EOL cancer treatment decisions.

Results
Among the 182 respondents (response rate 76%), the median composite EOL care score was 6 (interquartile range 5-7). A higher composite score was significantly associated with solid tumor oncology (median 7 vs. 6 for hematologic oncology, P=0.003), a greater willingness to refer patients with newly diagnosed cancer to specialist palliative care (median 7 vs. 6, P=0.01), greater comfort with symptom management (median 6 vs. 5, P=0.01) and provision of counseling (median 7 vs. 4, P<0.001), but not cancer treatment decisions. We observed a gradient effect with higher composite scores associated with a greater proportion of patients being referred to palliative care (scores 0-4=27%; 5=31%, 6=32%, 7=35%, 8=45%; P=0.007).

Conclusions
Greater comfort with EOL care was associated with higher rates of specialist palliative care referral and self-reported primary palliative care delivery. More support and education are needed for oncologists less comfortable with EOL care.

PS020

PREVALENCE AND INTENSITY OF DYSPNEA IN ADVANCED CANCER AND ITS IMPACT ON QUALITY OF LIFE
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Introduction
Dyspnea is a subjective, multidimensional experience of breathing discomfort, commonly seen in patients with advanced cancer that influences all aspects of patient’s life. To find the impact of dyspnea on the quality of life in this population, it is important to understand the prevalence and factors influencing dyspnea.

Objectives
The objective of this study was to determine the prevalence, intensity and factors influencing dyspnea in advanced cancer and determine its impact on overall quality of life.

Methods
The study was a prospective cross sectional study. Prevalence of dyspnea and its impact on quality of life was determined on 500 patients registered with Palliative Medicine OPD. The patients were asked to fill a set of questionnaires which included the Cancer Dyspnea Scale (translated and validated Hindi and Marathi versions), Visual Analogue Scale for dyspnea and EORTC QLQ C15 PAL. Other details of symptoms, disease, treatment and the demographics were collected from the case record form of the patient. Descriptive statistics, univariate and multiple regression analysis were used to calculate results.

Results
44.37 % of the patients experienced dyspnea. The factors of dyspnea increased with increase in anxiety, depression, fatigue, loss of appetite, loss of well being, pain, lung involvement by primary or metastatic disease, performance status and deteriorating overall quality of life and emotional well being on EORTC QLQ C15 PAL.

Conclusions
Prevalence of dyspnea in advanced cancer population is as high as 44.37% and it causes a negative impact on overall quality of life of patients

PS021

COMMUNICATING CANCER RISK AND TREATMENT BENEFITS TO THE PUBLIC
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Cancer evidence is commonly communicated to people at risk of or diagnosed with cancer as part of interactions with health professionals. In the case of cancer risk, the motivation is generally towards providing information that will drive behaviour change away from a risk behaviour. In the case of treatment benefit information the aim is to assist patients to make decisions about whether or not to receive a particular treatment. The communication of such information has received significant attention in terms of the style or skills of the health professional and the characteristics of the patient but less attention has been paid to the presentation of statistical information on the risks and benefits. Communicating risk and benefit is a complex process involving at least two individuals (health professional and patient) each with their own biases and perceptions and where relationships, perceptions of competence and emotions may be more critical drivers of both understanding and ultimately of decision making than the data. This presentation will focus on two examples, the risk of bowel cancer from consumption of processed and overall red meat and the benefits derived from adjuvant chemotherapy, to examine best practice concepts that can aid informed lifestyle choices and treatment decision making.

PS022

REFERRAL CRITERIA FOR OUTPATIENT PALLIATIVE CANCER CARE: AN INTERNATIONAL CONSENSUS
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Comparing palliative care and supportive care specialist beliefs about

SPiritual care

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Introduction

Spiritual wellbeing is as important as physical wellbeing in improving quality of life in cancer patients. A previous survey of MASCC members found low frequency of spiritual care (SC) provision.

Objectives

We hypothesized that physicians with special training in palliative care would demonstrate an increased sense of responsibility for and higher self-reported adequacy to provide SC to patients than health professionals with general training.

Methods

We surveyed members of the Australian and New Zealand Palliative Medicine Society (ANZSPM) to ascertain their SC practices. We sent 445 emails on four occasions, inviting members to complete the online survey. Tabulated results were analyzed to describe the results.

Results

One hundred and fifty-eight members (35.5%) responded. Physicians working primarily in palliative care comprised the majority (95%) of the sample. Significantly more of the ANZSPM than MASCC respondents had previously received training in SC and pursued training in the previous two years. There was a significant difference between the two groups with regard to interest in and self-reported ability to provide SC. Those who believed it was their responsibility to provide SC were more likely to have had training, feel they could adequately provide SC, and were more likely to refer patients if they could not provide SC themselves.

Conclusions

Training in SC was more common in physicians who had received training in palliative care. ANZSPM members gave higher scores for both the importance of SC and self-reported ability to provide it compared to MASCC members. Training in SC may improve its provision.

P024

IntrodUction

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The objectives of this workshop are to facilitate participants' understanding of the requirements for preparing and submitting manuscripts for publication consideration to
Cancer is invariably associated with not only pain but a multitude of other symptoms which have a distressing effect on quality of lives of patients. Though, conventional pharmacotherapy and interventional techniques provide good symptom control, yet they are coupled with some limitations. The awareness about complementary or alternative therapies is not just increasing amongst general population but also cancer survivors. These include cognitive behavioural therapies, guided imagery, music therapy, acupuncture, scrambler therapy, massage, yoga and pranayama. Techniques like hypnosis, meditation, music therapy, yoga and gigong can be grouped together as mind-body therapies. These focus on the interactions amongst mind, body, brain and behaviour, and use the mind to improve health and functionality. These therapies have shown beneficial effects in palliative care patients who experience symptoms like pain, anxiety, sleep disturbances, mood fluctuations etc. Techniques like relaxation training, problem solving, hypnosis, progressive muscle relaxation, distraction and guided imagery are also used to reduce pain and allay anxiety. Patients can be taught to connect to higher self, develop a sense of control over their lives, and manage pain by distracting their attention from pain stimulus. Sudarshan Kriya and Pranayam is a special breathing exercise which is found to be effective in reducing stress and pain in cancer patients. Massage techniques like aromatherapy massage, Swedish massage, acupressure and reflexology give efficacious results in managing cancer related pain and other symptoms like fatigue, stress, anger, anxiety and depression. It involves application of pressure to muscles and soft tissues by trained therapist in a way that it improves circulation, promotes relaxation and reduces pain. However, it should be taken care of that high pressure should not be applied in patients with bone metastases or at sites of disease involvement. These pose a risk for fractures, bleeding or exacerbation of pain. Acupuncture is a traditional technique involving insertion and stimulation of needles at certain points in body. The stimulation can be done via heat, electric pulses or manual manipulation. Its role for managing chemotherapy-induced acute vomiting has already been demonstrated. It might be considered for relief of opioid induced nausea and vomiting. Various mechanisms like increase in circulatory levels of opioid peptides, mechano-transduction-based responses, discharges of polymodal receptors and blood flow improvement underlie the analgesic activity attributed to acupuncture. Its analgesic effects have been demonstrated for neuropathic cancer pain and arthralgia due to aromatase inhibitors in breast cancer survivors. Scrambler therapy, relatively novel technique, is based on the mechanism of transcutaneous electrical nerve stimulation. It has been used in relieving cancer pain and chronic chemotherapy induced peripheral neuropathy. The use of complementary therapies for symptom management in cancer patients is promising but is lacking sufficient scientific evidence. The evidence from systematic reviews and randomised control trials for complementary therapies is scarce. However, these treatments are free from associated risks and hence can be given along with conventional treatments. In addition, some of these practices can be performed by patients themselves. Only by tailoring these therapies as per patient’s beliefs and preferences, optimal patient-centred palliative care can be provided.

**Bibliography**


PS026

EFFECT OF YOCAS YOGA, SLEEP AND FATIGUE ON QUALITY OF LIFE (QOL) IN FEMALE BREAST CANCER SURVIVORS
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Introduction
Sleep disturbance and fatigue are correlated with diminished QOL, allowing for the possibility that improvement in these symptoms could improve QOL.

Objectives
We performed secondary analyses, from a phase III RCT investigating the efficacy of YOCAS Yoga on sleep quality, to examine (i) the effect of Yoga on QOL and (ii) the mediating effects of changes in sleep and fatigue on QOL.

Methods
Assessments were performed on 245 survivors (mean age 54) prior to the 4-week Yoga intervention (baseline) and at post-intervention. Sleep was assessed by the Pittsburgh Sleep Quality Inventory (PSQI) and the Insomnia Severity Index (ISI). Fatigue was assessed by the Symptom Inventory (SI-Fatigue, 0=none to 10=worst scale). QOL was assessed by the Functional Assessment of Cancer Therapy-General (FACT-G). Change scores from baseline to post-intervention were calculated for all measures for patients who did (N=123) or did not (N=122) receive Yoga.

Results
ANCOVA controlling for baseline showed that Yoga significantly improved FACT-G at post-intervention (p<0.01). Changes over time in the FACT-G were significantly associated with concurrent changes in the PSQI, ISI and SI-Fatigue (all R’s≥0.38; all p’s<0.0001). Path analysis showed that Yoga mediated the improvement in FACT-G (p<0.0001) through improvements in PSQI (p=0.035), ISI (p=0.001) and SI-Fatigue (p=0.047). There was no significant direct effect of Yoga on FACT-G (p=0.680).

Conclusions
In breast cancer survivors with sleep disturbance, Yoga significantly improved QOL and this improvement in QOL may be mediated by concurrent improvements in sleep disturbance and fatigue.

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PS027

USE OF ALTERNATIVE TREATMENT IN ADDITION TO CONVENTIONAL THERAPY AMONG DANISH CANCER PATIENTS
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Introduction
Knowledge about alternative treatment is important to guide the patient to safe and evidence based treatments.

Objectives
To assess the use of alternative treatment among cancer patients receiving treatment at Department of Clinical Oncology at Zealand University Hospital in Denmark.

Methods
A questionnaire regarding use of alternative treatment was handed out to adult patients with diagnosed cancer receiving chemotherapy in an outpatient clinic. The questionnaire was comprised of three parts: 1) Demographics, 2) Use of alternative treatment, 3) Motivation for use and expenses.

Results
Out of 208 responses 207 were eligible for analysis. 67 (32%) reported use of alternative treatment including dietary supplements of vitamins and minerals. The results showed that 42 (20%) used vitamin-C, 16 (8%) used acupuncture, 15 (7%) used Selenium, 10 (5%) used zone therapy, 9 (4%) used cannabis oil, 4 (2%) smoked cannabis and 4 (2%) used homeopathy.

Less than 2% reported: kinesiology, healing, bowtech, nutrition therapy, lemon and sodium bicarbonate, ginger, apricot seeds, hypnosis, melatonin and neuro-linguistic programming.

Alternative treatment was more common among lung cancer patients (42%) and least common among colorectal cancer patients (21%). Use of alternative treatment was more frequent among females vs males (35% vs 30%), and among married/cohabitant patients vs patients living alone (35% vs 28%).

The median monthly expense on alternative treatment was 143 US$ (n = 27, range 14 US$ - 2141 US$).

Conclusions
The results in this study shows that approximately 1/3 of the participating cancer patients uses at least one form of alternative treatment including dietary supplements in combination with traditional therapy.

PS028

GERIATRIC ASSESSMENT IN ONCOLOGY; HOW CAN IT BE DONE IN CLINICAL PRACTICE AND MODELS OF CARE FROM AROUND THE WORLD
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Geriatric assessment is the fundamental process to evaluate functional status, geriatric syndromes, comorbidities,
polypharmacy, psychosocial and nutritional status of an elderly cancer patient. This evaluation is mandatory prior to making any treatment decisions for this heterogeneous population. Geriatric assessment can be done by a geriatrician using comprehensive geriatric assessment and by the treating physician or a nurse with the help of screening tools or multidimensional geriatric assessment (MGA) tools. Some of the examples of commonly used instruments are screening tools such as VES-13 or G-8 and MGA tools like SAOP-2 or Adelaide score. Chemotherapy toxicity prediction tools such as CRASH or CARG score can help in selecting the best systemic treatment option. Life expectancy tables and online tools like e-prognosis can also provide useful information.

CONSEQUENCES OF INFORMAL CAREGIVING TO AN OLDER PERSON WITH CANCER

Introduction

Although the majority of cancer patients in the Western world are 65+ years of age when diagnosed, research in the gero-oncology setting is sparse. Evidence on the experiences of informal caregivers of older cancer patients is even more limited. Given the important contribution of caregivers, particularly as treatment has largely moved to the ambulatory care setting, it is necessary to understand caregivers’ experiences/needs.

Objectives

Examine the experiences/needs of informal caregivers of older adults with cancer receiving chemotherapy.

Methods

Sequential mixed-methods design comprising a cross-sectional survey (n = 86) assessing caregiving tasks, impact of caregiving (CRA & FACIT Sp12), needs (SCNS-P&C) and psychological morbidity (GHQ12) and quality of life (QoL/SF12), followed by in-depth interviews (n=19) with a purposive sample of responders, analysed by Framework method.

Results

Preliminary data shows that caregivers have on average three moderate/high unmet needs; Hierarchical regression models (age, gender, marital status, tasks, imp and needs as predictors) explained between 37 – 52 % of the variance in QoL, with spiritual wellbeing, health and change to schedule contributing significantly to mental health related QoL. Interview data corroborates some of the quantitative findings and extends understanding around caregiver tasks and factors contributing to caregivers’ experiences/needs.

Conclusions

Our results indicate that caregivers of older people with cancer may have different experiences and needs to other caregivers. In particular, caregivers’ spiritual wellbeing and its impact on their quality of life is a key factors not considered in previous research. Findings also indicate that interventions to support caregivers should consider gender, age and cultural differences.

DEVELOPMENT AND VALIDATION OF AN INSTRUMENT TO IDENTIFY CARDIOMETABOLIC PREDICTORS OF MORTALITY IN OLDER INDIVIDUALS WITH CANCER.

Objectives

To identify significant cardiometabolic predictors of mortality among elderly cancer survivors and develop and validate a screening instrument to assess individual risk of mortality.

Methods

Retrospective cohort study using collected data from the Australian Longitudinal Study of Ageing (ALSA). Cox proportional hazards model was used to derive the risk equation for mortality that could be evaluated at 10 years. Measures of discrimination and calibration were calculated in the validation cohort.

Results

The equation was developed using 294 cancer survivors and validated in 127 different cancer survivors. Significant cardiometabolic predictors of mortality included in the final model are age, sex, history of cerebrovascular disease, non-adherence to exercise guidelines (< 150 minutes moderate activity per week), and smoking. Discrimination and calibration were acceptable, with minimal differences in C statistics (0.0442, 95% CI: -0.0149 to 0.103) and adjusted R² values (0.0407, 95% CI: -0.181 to 0.0998) between the development and validation cohorts, respectively.

Conclusions

We have developed and validated the first screening tool to predict cardiometabolic risk of mortality in elderly cancer survivors and defined centile values for risk classification. Further validation and research on the usability and usefulness of the tool in clinical practice are recommended in order to target cancer survivors for interventions. Cost effectiveness of such an approach should also be examined.
Hair loss from chemotherapy is a significant concern for cancer patients. Scalp cooling (SC) is the only effective measure for prevention of scalp hair loss, and recent advances in coolant devices have made this more practical for implementation in chemotherapy units. SC is widely used in Europe and the UK, but has only recently been introduced in Australia. Our unit pioneered its use with breast cancer patients, and we sought to advance implementation more widely. Using the PARIHS framework, we aimed to understand the Evidence, Context and Facilitation factors that might influence implementation. Evidence until recently has come mainly from registries, with the randomised trials only recently emerging and presented at mainstream oncology meetings. Oncologists and nurses expressed a lack of familiarity with the processes of device approval (as opposed to drugs), and a need for better exposure to the evidence. The context of chemotherapy units with pressure on space, chair time and nursing hours was a barrier, as well as having only a small group of patients accessing the technology and others missing out. Lack of familiar measures for quantifying success, and lack of standardised data bases for benchmarking were concerns. Information for patients and hairdressers about hair care during SC was a need. Facilitators included close cooperation between nursing and medical oncology “champions”, support from administration and patients, and philanthropic funds for purchase of devices. On the basis of these findings we have developed video based information for patients, professionals and hairdressers and will make protocols available on EVIQ, the video based information for patients, professionals and devices. On the basis of these findings we have developed video based information for patients, professionals and hairdressers and will make protocols available on EVIQ, the video based information for patients, professionals and devices.  

**Results**

25 women participated in one of five groups, ages ranging from 35-64 (median 50). All had completed adjuvant therapy with a minimum of four cycles of Taxane-based treatment. Seven themes emerged from the data: (1) Meaning and importance of eyebrows/eyelashes (2) Preparedness/Information provided (3) Impact of hair loss on [F]Self (4) Impact of hair loss on others (5) Physiological side effects of loss of eyebrows/eyelashes (6) Management of loss of eyebrows/eyelashes and (7) Timing of regrowth and permanent changes. A range of emotional issues caused by madarosis were reported, together with side effects of dry eyes, excessive tearing and soreness/redness.

**Conclusions**

This study highlights the significant impact of madarosis on patients, both emotionally and physiologically. Further research in this area is needed and intervention trials will benefit from development of a dedicated instrument/questionnaire which captures and measures the impact of madarosis on QOL.
mucositis. Some patients may require high-dose corticosteroids. Severe or life-threatening colitis is severe and might require immunosuppressive treatment with infliximab. Rarely, in very severe cases of perforation surgery may be needed. Hepatotoxicity in the form of derangement of liver function tests can occur. Patients should be investigated for infectious causes or disease progression. If liver function derangement is significant corticosteroid treatment, or immunosuppressive therapy may be required. Endocrinopathy manifests with nonspecific symptoms of fatigue, headache, mental state changes or even dizziness from hypotension. It may be not possible to differentiate these symptoms from other diseases or cancer progression. The most common abnormalities of the endocrine system are hypophysitis and hypothyroidism. Other complications include pneumonitis and ocular complications (episcleritis, conjunctivitis, and uveitis). Neurological complications including encephalopathy syndrome, aseptic meningitis, enteric neuropathy, Guillain-Barré-like syndrome and transverse myelitis have been reported. Others irAEs include pancreatitis, renal insufficiency and nephritis. Finally, hematological complications in the form of red cell aplasia, neutropenia, acquired hemophilia A, immunological events usually much later (up to 9-10 weeks) after initiation of treatment. Gastrointestinal side effects include abdominal pain, mucositis, aphthous ulcers and gastritis. Diarrhea related to colitis is very common, and in severe conditions can cause perforation and lead to death. Patients can also present with blood or mucus in their stool and perforation or peritonitis signs. Treatment includes symptomatic management with rehydration, replacing electrolyte losses and loperamide. Some patients may require immunosuppressive treatment with infliximab. Rarely, in very severe cases of perforation surgery may be needed. Hepatotoxicity in the form of derangement of liver function tests can occur. Patients should be investigated for infectious causes or disease progression. If liver function derangement is significant corticosteroid treatment, or immunosuppressive therapy may be required. Endocrinopathy manifests with nonspecific symptoms of fatigue, headache, mental state changes or even dizziness from hypotension. It may be not possible to differentiate these symptoms from other diseases or cancer progression. The most common abnormalities of the endocrine system are hypophysitis and hypothyroidism. Other complications include pneumonitis and ocular complications (episcleritis, conjunctivitis, and uveitis). Neurological complications including encephalopathy syndrome, aseptic meningitis, enteric neuropathy, Guillain-Barré-like syndrome and transverse myelitis have been reported. Others irAEs include pancreatitis, renal insufficiency and nephritis. Finally, hematological complications in the form of red cell aplasia, neutropenia, acquired hemophilia A,
thrombocytopenia and haemolytic-uraemic syndrome have been described during immunotherapy.

In conclusion: Treating physicians and other healthcare professionals should routinely be on the lookout for irAE and institute appropriate therapy promptly and correctly as most of these side effects are mild and manageable. If not, it can be life threatening and result in death.

PS036

DERMATOLOGICAL COMPLICATIONS WITH CHECKPOINT AND PD1 INHIBITION

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The therapeutic use of anti-TPD-1/PD-L1 antibodies (nivolumab, pembrolizumab) is rapidly increasing. Given their mechanism of action that trigger T-cell activation, these immune checkpoint inhibitors induce specific adverse events which are mostly of immunologic origin. In this way, cutaneous toxicities represent the most frequent immunerelated adverse events (irAEs). For instance, more than 40% of melanoma patients treated with anti-PD-1 therapy are faced with dermatologic irAEs. Non-specific macular papular rash and pruritus represent the most common manifestations. More characteristic lichenoid dermatitis or psoriasis may also develop. Vitiligo is also frequent in melanoma patients but has not been reported in other types of solid cancers. Mucosal involvement may also occur, including xerostomia and lichenoid reactions. Although available data remain scarce, anti-PD-L1 antibodies present a similar dermatologic safety profile.

Dermatologic irAEs induced by PD-1 or PD-L1 blockade therapy usually remain self-limiting and readily manageable. However, early recognition and appropriate management are crucial for restricting dose-limiting toxicities. The purpose of this lecture is to summarize the most prevalent dermatologic complications induced by PD-1/PD-L1 immune checkpoint-blocking antibodies and to compare their dermatologic safety profile with anti-CTLA-4 ipilimumab.

PS038

CLINICAL CHARACTERISTICS OF IPILIMUMAB-ASSOCIATED COLITIS. PRESENTATION OF CLINICAL CASES AND TOXICITY MANAGEMENT.

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Introduction

Ipilimumab is a cytotoxic T-lymphocyte-associated antigen-4-blocking monoclonal antibody, which is associated with long-term survival benefit in patients with metastatic malignant melanoma. Ipilimumab is a promising treatment, however it is associated with several immune-related adverse effects (IRAE) mainly targeted toward the digestive tract, skin, liver, thyroid and hypothalamic-pituitary axis. Less frequent complications include pancreatitis, uveitis, neuropathies, and nephritis. Ipilimumab-induced...
gastrointestinal toxicity includes diarrhea (~44%), colitis (~18%), bowel perforation (<1%), and pancreatitis (<1.5%).

Objectives
Review ipilimumab associated colitis and management recommendations. This case series exemplifies our effort to make practicing oncologist aware of the spectrum of colitis associated with ipilimumab, and to discuss the supportive care and management algorithm for ipilimumab-induced gastrointestinal side effects.

Methods
Retrospective review of patients treated with ipilimumab at our institution.

Results
We present a series of three patients with metastatic melanoma, who received treated with ipilimumab, and presented mainly with gastrointestinal clinical complications. All 3 patients had severe diarrhea and abdominal pain; 1 patient had a concurrent rectal bleed. These symptoms started after 2 and 4 infusions of ipilimumab respectively. All patients received treatment with corticosteroids. One patients (a long term survivor) who developed steroid-refractory colitis required infliximab (5 mg/kg). Diarrhea resolved in all three patients.

Conclusions
Gastrointestinal supportive care of patients undergoing ipilimumab treatment includes steroids as initial treatment, followed by infliximab (anti-tumor necrosis factor alpha antibody) in steroids refractory cases. Early recognition of ipilimumab associated colitis and early treatment initiation are critical to decrease the risk of further complications.

PS040

PATIENT PREFERENCES FOR THREE MODE OF PRO ADMINISTRATION: INTERACTIVE VOICE RESPONSE, PAPER, AND TABLET


Introduction: In a large scale prospective study of ambulatory cancer patients assessing the standardization and relative validity of the PRO-CTCAE, PROMIS, and several 0-10 numeric rating scales, we randomly allocated participants to one of three modes of administration: Interactive Voice Response (IVR), Paper, and Tablet PC. This report focuses on the receptiveness of patients to the modes used to complete surveys. Objective: To compare IVR, paper and tablet administration of these measures with respect to patient preference and willingness to continue assessments in the future. Methods: We studied 1800 patients >18 years and undergoing cancer treatment at 5 large medical centers. Patients with a wide variety of tumor sites and stages were randomly assigned the survey modes of IVR, paper or tablet. Results: Comparable across survey modes, 88% of the patients reported no difficulty completing the survey. Compared to patients who completed paper surveys, patients who used the tablet or IVR reported less willingness to use paper surveys in the future (83% paper, 66% tablet, 70% IVR; p

PS041

TEXT MESSAGES TO EDUCATE, ENGAGE, AND MOTIVATE (TEEM TRIAL): PATIENT PERCEPTIONS OF TEXT MESSAGING TO SUPPLEMENT PATIENT COUNSELING AND IMPROVE MEDICATION ADHERENCE

S. Ahrair, C. DeAngelis

Introduction
Over half of breast cancer patients take endocrine therapy as part of their anticancer treatment. Studies suggest that up to 50% of these patients do not adhere to therapy; most patients stop treatment prematurely. As healthcare institutions globally do not have the human resources to follow all breast cancer patients closely and encourage long-term adherence, alternative means of interaction, such as text messaging, need to be explored.

Objectives
This study is stage 1 of a 2-stage study to design and evaluate a text messaging intervention (TMI) in order to improve breast cancer patient adherence to endocrine therapy.

Methods
We developed a TMI using the Intervention Mapping Framework. Breast cancer patients receiving endocrine therapy will be invited to test the TMI and provide their feedback. Semi-structured interviews will be conducted at baseline and after patients have been enrolled in the TMI for 6 weeks.

Results
Data collection and analysis is ongoing. We hypothesize that personalized TMI will improve patient’s knowledge about their medications and increase their motivation to continue taking their medications as directed by their healthcare team. Interviews will be recorded and transcribed. Qualitative analysis will use Thorne’s interpretative description approach in order to understand how the TMI affects patient experiences with their endocrine therapy.

Conclusions
Improved patient engagement and knowledge about medications will help patients make a decision to continue adhering to endocrine therapy for longer, thus reducing their long-term risk of breast cancer recurrence and mortality. Text messaging has been used in other therapeutic areas and has improved long-term medication adherence.

PS042

NEW TREATMENTS FOR CHEMOTHERAPY-INDUCED BONE LOSS
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Due to intensive chemotherapy, the majority of patients (64%) of acute lymphoblastic leukaemia or ALL (the most common childhood cancer) suffer from significant bone loss, and 39% patients have fractures. Alarmingly, years after chemo, persistently lower bone mass and an increased fracture rate (17.8% of patients) were also reported as the survivors’ major long-term problems. Childhood cancer chemotherapy has been known to be the major reason causing bone growth arrest, bone loss and bone marrow fat accumulation, for which the underlying pathobiology is unclear and there is a lack of specific treatments. Methotrexate (MTX), an anti-metabolite, is most commonly used in childhood chemotherapy; it is also used in bone marrow transplantation and arthritis. It is important to address its bone toxicity. Here, we investigated cellular and molecular mechanisms for MTX treatment-induced bone growth defects and explored potential preventative treatments.

Using rat models of MTX treatments for either short-term (5 daily injections at 0.75mg/kg, mimicking the acute intensive induction treatment for childhood leukaemia ALL), or long-term (1.5mg/kg twice weekly, 6 weeks, mimicking the whole treatment course for ALL), we investigated cellular and molecular mechanisms for MTX treatment-induced defects in growth plate function, bone formation, bone resorption, and bone marrow bone/fat homeostasis, and explored potential protective effects of supplementary treatments with folic acid and some anti-inflammatory and/or anti-oxidant nutraceuticals. We found that MTX chemotherapy causes chondrocyte apoptosis and growth plate dysfunction, decreases pool of marrow osteoprogenitor cells, reduces osteoclast but increases adipocyte differentiation, enhances osteoclast formation, resulting in reduced bone formation and increased bone resorption and marrow adiposity. Attenuated Wnt/b-catenin signaling in the bone and bone marrow stromal cells was shown to be associated with the osteogenesis – adipogenesis switch, and increased expression of osteoclastogenic cytokines (TNF-a, IL-1b, IL-6, and RANKL) and activation of NF-kB signalling were found to be associated with increased osteoclast formation after MTX treatment. We demonstrated that preserving Wnt signaling by blocking its antagonist(s) abrogated the bone defects and that oral doses of some anti-inflammatory nutraceuticals preserved osteoprogenitor content and bone formation, suppressed expression of osteoclastogenic factors and osteoclast density in bone, and minimized marrow adiposity. In addition, supplementation with folic acid (antidote for MTX) attenuated MTX bone damaging effects by partially restoring Wnt/b-catenin signalling and partially preserving folate metabolism. Our studies indicate that methotrexate chemotherapy disrupts Wnt/b-catenin signalling and enhances cytokine expression/NF-kB activation in bone and causes bone loss, and that some supplementary treatments may be beneficial in preserving bone integrity during chemotherapy.

PS043

PERSONALIZATION SUPPORTIVE CARE (CORRECTION OF ANEMIA, NEUTROPOenia, AND THE APPOINTMENT OF BONE-MODIFYING AGENTS)
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Introduction
The basic idea of the development of calculators, included the creation of a mini questionnaire on key criteria that determine the choice of supportive care for each patient.

Objectives
The modern concept of drug treatment - a balance between efficacy and toxicity. Anemia, neutropenia and thrombocytopenia are the major adverse events that limit the
ability of chemotherapy. The development of skeletal related events associated in patients with bone metastases may result in the patient’s disability, and increased mortality.

Methods
Creating online calculators took place in several stages: 1) Updating algorithms of anemia and neutropenia, 2) Create a appointment algorithm bone-modifying agents, 3) Preparation and clinical testing of the printed version (PV) of calculators, 4) Development and testing of the electronic version (EV).

Results
The developed algorithms have served as an information base for the PV of the calculator. Clinical testing of the PV of calculators has been performed by oncologist from 17 regions of the Russian Federation. The next stage of testing was to conduct the online survey and was emphasis concerning the optimal use of the calculators in clinical practice. The framework of the First Russian Conference “Supportive care in oncology” held a meeting where they were presented results of a vote and decided to create an EV on the basis of approved PV. Similarly, testing the printed version evaluated EV.

Conclusions
The key to successful treatment of cancer patients can only be personalized and multidisciplinary approach. In this regard, the creation of such calculators is important tool for the choice of a more effective treatment strategy.

PS044

MEDICATION-RELATED OSTEONECROSIS OF THE JAW IN ADVANCED CANCER PATIENTS: A MULTICENTER CASE REGISTRY STUDY


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Introduction
Medication-related osteonecrosis of the jaw (MRONJ) is defined as exposed jawbone or bone probed through a fistula persisting for 8 or more weeks with no history of radiation or metastatic disease to the jaws and with previous antiresorptive/antiangiogenic treatment.

Objectives
This case registry of advanced cancer patients (pts) with MRONJ reports on the natural history of ONJ and estimated rate and time course of MRONJ resolution.

Methods
Cancer pts with positively-adjudicated, newly diagnosed MRONJ were enrolled. Baseline cancer and dental histories were collected. Follow-up visits were conducted every 3 months for 2 years then every 6 months for 3 years.

Results
For this interim analysis, 225 pts enrolled and 170 (76%) continued on study with a median follow-up of 6.3 months (0.1-31.0). Most pts with solid tumors had stage IV disease (56%). At baseline, most pts had stage II ONJ (62%) and oral risk factors (73%). 218 (97%) pts received antiresorptives (median time [range]; 23.3 [0.0, 124.9] months) prior to MRONJ diagnosis. 118 (52%) pts received antiangiogenics or immunosuppressants. MRONJ was medically managed in 92% pts (e.g. antibiotics, rinses), 54 (24%) pts required surgical procedures (e.g. debridement). Of evaluable pts, 86 (38%) had stable/improved ONJ, 16 (7%) progressed, and 47 (21%) achieved ONJ resolution (complete mucosal coverage of exposed bone; median time [range] 8.2 [2.8, 33.7] months).

Conclusions
At baseline, most pts had stage II MRONJ and were conservatively managed. Most pts had additional local risk factors, including prior tooth extractions. Of the evaluable pts, the majority had stable, improved or resolved ONJ outcomes. Future analyses will be reported with continued enrollment.

PS045

MAKING MEANING, MAKING SPECIAL: A MULTIMEDIA EXPLORATION OF THE ROLE OF THE ARTS IN CANCER CARE

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As evidence supporting the contribution of the arts to health and wellbeing grows stronger internationally, introducing art and cultural experiences into the life and fabric of health care is becoming increasingly widespread. This session draws on the extensive experience of Arts in Health at FMC in South Australia to explore the particular benefits of arts programs in the context of cancer care. Since its inception in 1996 Arts in Health at FMC has evolved into one of the most consistent and long-running programs of its kind in Australia. Based within the Department of Allied Health at the Flinders Medical Centre, it works closely with hospital staff and community to offer a comprehensive program encompassing diverse art forms and approaches. Program development is informed by rigorous analysis of feedback from staff, patients, families and carers, backed by current research in the field. In 2015 a SALA (South Australian Living Artists) Artist-in-Residency was hosted in collaboration with the Flinders Centre for Innovation in Cancer (FCIC), consolidating its focus on arts in cancer care. This multi-media session, presented collaboratively by the arts coordinator, researcher and artist-in-residence, incorporates live performance, music, film and images. In the context of an overview of evidence in the field, practical examples and discussion will show how the arts support the psychological, social and emotional needs of patients and carers dealing with diagnosis and treatment of cancer, while providing insights into the experience of the artist in a cancer care setting.

PS046

NUTRITIONAL RISK IN LUNG CANCER: IS MEDICAL NUTRITION THERAPY EFFECTIVE

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Introduction: Malnutrition and weight loss are prevalent in patients with lung cancer. Despite this there is limited knowledge of which patients are at higher nutritional risk or if nutrition intervention is effective during radiotherapy treatment.

Objective: To identify factors associated with high nutritional risk and establish the feasibility and impact of medical nutrition therapy (MNT) in lung cancer patients receiving radiotherapy.

Methods: A series of retrospective and prospective studies were completed to identify the patient and clinical factors associated with nutritional risk in lung cancer patients. Factors investigated included age, gender, disease stage, performance status, type of treatment and radiotherapy dose to the oesophagus. A phase II randomised trial was completed to establish the feasibility and acceptability of MNT in lung cancer patients.

Results: Outcomes demonstrated that advanced stage disease and treatment with concurrent chemotherapy were associated with clinically significant weight loss (>5%) and were predictive of nutritional risk during radiotherapy. The phase II trial of MNT demonstrated recruitment feasibility and acceptability of the intervention, and indicated MNT may improve weight, fat-free mass, fatigue and functional outcomes.

Conclusions: An understanding of factors placing lung cancer patients at higher nutritional risk during radiotherapy treatment is emerging. MNT as a nutrition intervention in this group has been shown to be feasible and acceptable but further larger trials are required to establish an effect on clinical outcomes.

PS047

HEALTHY LIVING AFTER CANCER: A NATIONALWIDE APPROACH TO IMPROVING DIETARY INTAKE AND INCREASING PHYSICAL ACTIVITY FOR CANCER SURVIVORS

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Introduction: There is considerable evidence for the role of physical activity, healthy diet and weight control in improving outcomes for cancer survivors. However, these lifestyle interventions are not incorporated as part of routine care.

Objectives: The Healthy Living after Cancer (HLaC) is an Australian National Health & Medical Research Council funded Partnership Project evaluating the uptake of an evidence-based, six-month telephone-delivered lifestyle program targeting cancer survivors by four Cancer Councils (NSW, VIC, SA, WA) in collaboration with an interdisciplinary research team.

Methods: HLaC targets cancer survivors providing behaviourally-based support delivered by trained oncology specialist nurses to achieve internationally-agreed recommendations for physical activity, healthy eating and healthy weight. Dietary assessment is via the validated Fat and Fibre Behaviour Questionnaire. In this phase IV dissemination study (single-group, pre-post design with assessments at baseline, six and 12-months), primary outcomes relate to program implementation: adoption (referral sources); reach (# of participants) and retention; fidelity of implementation; participant and staff satisfaction; fixed and recurrent costs of program delivery. Secondary outcomes are patient-reported and validated measures of: physical activity and dietary intake/behaviour, weight, waist circumference, quality of life, cancer-related side-effects, distress and fear of recurrence.

Results: As well as presentation of study data, training of nurses to deliver the intervention will be discussed. To date,
Introduction: Cancer malnutrition is common and associated with poor clinical and functional outcomes. The Malnutrition in Victorian Cancer Services (MVCS) program of work (phase I-II) commenced in 2011 and is a state-wide collaboration between the Victorian state government, Peter Mac and 14 Victorian health services.

Objectives: The MVCS projects aimed to increase understanding, raise knowledge and promote strategies for action in order to address cancer malnutrition.

Methods: MVCS projects consisted of a malnutrition point prevalence study (PPS), clinician survey, health service survey, coding analysis, development of consumer education material (phase I); repeat PPS, 2 state-wide and 17 local initiatives that targeted identified areas of need (phase II); 4 state-wide initiatives (phase III).

Results: Phase I established the extent of cancer malnutrition and highlighted service gaps. The phase II PPS (n=1913) identified malnutrition prevalence had reduced to 26% from 31% in 2012 (n=1693). Phase II also included the development of eLearning packages targeting cancer care clinicians, a nutrition governance toolkit for practical health service application, and completion of 17 local initiatives. Phase III will include 4 targeted state-wide projects in 2016.

Conclusions: State-wide collaboration has led to improvements in clinical outcomes through the piloting/embedding and delivery of new models of care and pathways, an enhanced focus on the nutritional needs of cancer patients and improved multidisciplinary awareness of cancer malnutrition. This state-wide work has helped to reduce the impact of malnutrition on people with cancer and equip health services with tools to more effectively care for this patient group.

Conclusions: This University-Cancer Council collaboration provides an opportunity for national dissemination of an evidence-based intervention to support healthy living among cancer survivors. Rigorous evaluation of service-level and patient-reported outcomes will provide the practice-based evidence needed to inform advocacy for sustained funding. Support mechanisms for nurses delivering nutrition-related interventions require consolidation.

Introduction
One of the most problems in many chronic diseases such as cancer is iron deficiency anemia.

Objectives
The aim of this study was comparing the effectiveness of ferric carboxymaltose and oral iron in treatment of chronic iron deficiency anemia in colon cancer patients in Iran.

Methods
The study is a controlled clinical trial in colon cancer patients with chronic iron deficiency anemia referred to the oncology department of Rasoul Akram hospital, Tehran, Iran at 2015. Patients were selected based on the balanced block randomization into two groups. The first group received the standard treatment with oral ferrous sulfate (65mg three times a day for two months) and the second group received intravenous ferric carboxymaltose (1500 mg; body weight less than 70 kg; 2000 mg; body weight more than 70 kg). Follow up study was done, 8 weeks after first using in group I and 6 weeks after last consumption. (IRCT2015092111560N9).

Results
Finally, 30 cases in each group participated in the final analysis. Serum levels of ferritin and hemoglobin in patients after administration of ferric carboxymaltose increased more than other (p=0.000) and woman had better response that men in oral iron group (p=0.007).

Conclusions
The results showed that the use of parental iron formulations of ferric carboxymaltose had excellent efficacy in improving chronic iron deficiency anemia in patients with high rates of colon cancer compared with oral iron. This effect is largely related to formulations of ferric carboxymaltose, which increases the serum levels of ferritin and hemoglobin in stable sustained

Introduction
Muscle loss and study prognosis have become important clinical issues in patients with cancer cachexia that result in the progressive progressive skeletal muscle wasting and loss of muscle strength, resulting in decreased physical performance and exercise capacity, leading to increased risk of complications, and decreased quality of life. Therefore, treatment of muscle loss and study prognosis is an important goal for patients with cancer cachexia.

Objectives
The objective of this study was to evaluate the muscle mass and study prognosis of patients with breast cancer before and after chemotherapy.

Methods
This is a prospective study of 50 patients with breast cancer who were referred to Shizuoka Cancer Center, Japan, for chemotherapy. The patients were divided into two groups: Group 1 included 25 patients who received chemotherapy, and Group 2 included 25 patients who did not receive chemotherapy. The muscle mass and study prognosis were assessed before and after chemotherapy.

Results
The muscle mass and study prognosis of patients in Group 1 were significantly lower than those in Group 2 before chemotherapy. After chemotherapy, the muscle mass and study prognosis of patients in Group 1 increased significantly compared to those before chemotherapy, while no significant changes were observed in Group 2.

Conclusions
Chemotherapy is effective in improving the muscle mass and study prognosis of patients with breast cancer.

Conclusions: This University-Cancer Council collaboration provides an opportunity for national dissemination of an evidence-based intervention to support healthy living among cancer survivors. Rigorous evaluation of service-level and patient-reported outcomes will provide the practice-based evidence needed to inform advocacy for sustained funding. Support mechanisms for nurses delivering nutrition-related interventions require consolidation.


**PS051**

**NAUSEA AS A SYMPTOM CLUSTER**

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Nausea as a symptom cluster

Introduction

Although the introduction of 5HT3 and NK1 receptor antagonists has improved chemotherapy-induced vomiting, nausea remains a problem in up to 75% of patients, and is still ranked by them in the top 10 disturbing symptoms.

Objectives

Improve the management of chemotherapy-induced nausea (CIN) by assessing and treating it as a symptom cluster.

Methods

A preliminary qualitative study was performed in currently treated patients and survivors and who had experienced CIN, to test the hypothesis that nausea is a symptom cluster. The results were compared to other studies of CIN. The

**Results**

Results of the qualitative study indicated that individuals reported highly varied symptoms labelled as 'nausea' including variability in the severity, location, and duration of symptoms. We resolved to develop an electronic patient reported outcome (ePRO) tool and test the appropriateness of the tool based on further interviews with patients who had reported CIN based on the National Institutes of Health Patient Reported Outcome Measurement Information System. (PROMIS). Quantitative psychometric evaluation will then derive a minimal item bank that will assess the unique symptoms of the cluster. It was resolved to also examine pre and post treatment risk factors to allow for earlier interventions based on the ePRO tool.

Conclusions

Development of an App would seem the best way to allow real time symptom notification to better manage CIN.

**Introduction**

Cancer cachexia, a condition primarily characterized by decreased muscle mass, develops in 15-80% of cancer patients, and it is known to be strongly correlated prognosis. Breast cancer patients are said to be less likely to cachexia carcinoma, because the weight does not decrease in end-of-life. No previous reports have evaluated the longitudinal changes in skeletal muscle mass of breast cancer patients.

**Objectives**

To examine the relationship between skeletal muscle change and prognosis in end-of-life breast cancer patients.

**Methods**

Consecutive female patients who died of breast cancer and underwent CT scans that included the third lumber vertebrae at least twice during the 12 months before death were reviewed. The muscle mass was evaluated from both sides of the quantity (The cross-sectional area of skeletal muscle) and quality (muscle attenuation: MA). The cross-sectional area of skeletal muscle and MA were calculated on CT scans taken within 3 months, 3 to 6 months, 6 to 9 months, and 9 to 12 months from death. The Tukey-Kramer test and Pearson’s product-moment correlation coefficient were used as appropriate.

**Results**

Ninety-nine patients (median age at death 57 years, range 40-83 years) were retrospectively analyzed. The mean cross-sectional area of the skeletal muscle was significantly decreased within 3 months compared to 6-9 months before death (±SD) (6.47±2.19 cm², p=0.017). Mean MA decreased within 3 months compared to 9-12 months before death (3.67±1.38, p=0.040).

**Conclusions**

Skeletal muscle decreased in end-of-life breast cancer patients approaching death.

**PS052**

**RESULTS OF A SURVEY OF ONCOLOGY NURSES ASSESSING PRACTICE PATTERNS FOR PREVENTION OF CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING (CINV) AND ADHERENCE TO ANTIEMETIC GUIDELINES**

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**Introduction**

CINV can be prevented in most patients with use of guideline-recommended antiemetic regimens. However, studies suggest that adherence to antiemetic guidelines is suboptimal in US (Gilmore 2014) and European (Aapro 2012) oncology practices. Oncology nurses, as part of a multidisciplinary team, can help promote appropriate antiemetic prophylaxis.

**Objectives**

Goals were to assess antiemetic guideline awareness and practice patterns of antiemetic use, determine adherence to guideline recommendations, and query barriers to adherence among oncology nurses.

**Methods**

In Sept 2015, 531 practicing US-based oncology nurses participated in an online survey conducted by ONS:Edge.

**Results**

Nurses were most familiar with NCCN (73%) and ASCO (48%) guidelines while awareness of MASCC guidelines was 6%. Utilization of antiemetics revealed low adherence to guideline recommendations, particularly in the HEC setting; overutilization of phenothiazines and benzodiazepines was common in MEC/HEC.
Only 17% of nurses reported most (>75%) of their patients having CINV optimally controlled. The predominant barrier interfering guideline-recommended antiemetic prophylaxis was physician preference (71% respondents).

Conclusions
This nursing survey revealed an opportunity for MASCC to increase awareness of their antiemetic guidelines and a critical need to address barriers interfering with utilization of guideline-recommended antiemetic agents.

PS053
CREAM: NURSING PRINCIPLES FOR AN ONCODERMATOLOGY CLINIC DEDICATED TO MANAGING DERMATOLOGIC ADVERSE EVENTS TO ANTICANCER THERAPY
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Introduction
At Memorial Sloan Kettering Cancer Center (MSK), there is a specialized Oncodermatology clinic dedicated to managing dermatologic adverse events (dAE) to all anticancer regimens. These dAE can lead to various negative consequences in the physical aspect, quality of life, and financial health, and most importantly, an alteration in anticancer therapy. The nursing role in the management of these untoward dAE is integral in ensuring treatment adherence and optimizing disease outcomes.

Objectives
To define the oncodermatologic nursing (ODN) practice in the management of dAE to anticancer therapy

Methods
Pubmed was searched from 2005 to 2015 resulting in 788 articles. A trail of citations from similar and cited references were followed ensuring an all encompassing search. Articles selected were dedicated to oncologic literature mentioning dAE resulting from anticancer therapy or cancer diagnosis and mentioned the role of nursing.

Results
Trending themes were extracted from 161 articles to create the CREAM principles: Communication, Referral, Education/Encouragement, Assessment and Management/Monitoring. Further, the unique experience from the role of the ODN at MSK has been integrated within. This is the first definition of the ODN philosophy and practice for patient care in those experiencing dAE to all anticancer therapies.

Conclusions
Oncology and dermatology nurses should be well versed in the specialized skills it takes to run an Oncodermatology clinic dedicated to the management of dAE to all anticancer therapy. Future studies are essential to elucidate the indispensable role of the nursing in this setting and the impact on patient outcomes throughout the cancer continuum.

PS054
COPING STRATEGIES, TRAJECTORIES AND THEIR ASSOCIATIONS WITH PATIENT-REPORTED OUTCOMES AMONG WOMEN WITH OVARIAN CANCER
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Introduction
Almost all women with ovarian cancer face advanced stage disease, aggressive treatments and continual surveillance, yet little is known about how they cope.

Objectives
To identify coping strategies used by women with ovarian cancer and their trajectories of use after diagnosis. To assess if coping trajectories are associated with subsequent patient-reported outcomes.

Methods
Australian women with invasive ovarian cancer completed questionnaires including the Brief-COPE, FACT-O and
require patients to understand side effects and self-complex administration and handling instructions.

Cancer treatments are increasingly shifting towards oral medications (OACMs). OACMs tend to have complex administration and handling instructions required by patients to understand side effects and self-management concepts. Traditional medication counselling is a one-time occurrence which can be long, complex and dominated by the healthcare provider. This results in poor patient learning.

**Objectives**

The aim of our study is to explore medication experiences of metastatic breast cancer patients taking oral anti-cancer medications as we pilot a novel approach to medication counselling.

**Methods**

The Sunnybrook Breast Cancer Centre in Toronto, Canada has piloted a novel approach to counselling, providing both in-person and telephone counselling while the patient is on therapy. Breast cancer patients taking OACMs were interviewed and asked to describe their experiences. Interviews were audio-recorded, transcribed, and analyzed using Thorne’s interpretive description approach.

**Results**

Important trends that arose out of the analysis included high feelings of satisfaction with care received and reassurance that important counselling points were reinforced over time. Patients that had experienced both traditional counselling and the alternative approach compared both experiences and described a reduction in anxiety and increased confidence in their ability to manage their OACMs with the alternative counselling approach.

**Conclusions**

This paper outlines strategies to implement a novel medication counselling approach. This approach will be useful to patients receiving OACMs. Further research is needed to ensure generalizability to other patient populations.

**PS056**

**COMPARING PERSPECTIVES OF MEN WITH PROSTATE CANCER AND HEALTH CARE PROFESSIONALS ABOUT ACTIVE SURVEILLANCE**

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Cancer treatments are increasingly shifting towards oral anti-cancer medications (OACMs). OACMs tend to have complex administration and handling instructions and require patients to understand side effects and self-management concepts. Traditional medication counselling is a one-time occurrence which can be long, complex and dominated by the healthcare provider. This results in poor patient learning.

**Objectives**

This study explored perspectives of men with prostate cancer and clinicians regarding AS and the factors that influence decision-making to follow this course.

**Methods**

Focus groups were held with men (7 groups, N=56) with PC and with HCP (5 groups, N=48) who discuss AS. Viewpoints were captured about understanding of AS, practice regarding AS, and factors influencing decision-making about AS. Content analysis was performed on the verbatim transcripts for each sample separately. A comparison was then made between the men’s and clinicians’ viewpoints.

**Results**

All agreed AS is for low risk disease, is doing something intentionally, avoids treatment side effects, and regular monitoring allows time for other treatment decisions. Both
groups thought men could be comfortable maintaining AS if there were no changes. Disease status was a key determining factor in deciding to pursue AS, but men also discussed quality of life as a key consideration. Differences in perspectives were evident regarding clarity around criteria for AS, interpretation of test results, what constitutes a best standard approach for AS, information provided to patients, how much information is needed and given to men, and the amount of time required to make a decision.

Conclusions
Differences in perspectives can be a source of tension between patients and clinicians. Communication and education efforts are needed to achieve shared perspectives about AS.

PS057
THE IMPACT OF AN EDUCATIONAL PROGRAM ON PATIENT PRACTICES ON SAFE USE, STORAGE, AND DISPOSAL OF OPIOIDS IN A COMPREHENSIVE CANCER CENTER
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Introduction
Improper use, storage, and disposal of prescribed opioids can lead to diversion or accidental poisoning. Our previous study showed a large proportion of cancer patients have unsafe opioid practices.

Objectives
Our objective was to determine if there was an improvement in the patterns of use, storage, and disposal of opioids among cancer outpatients following the implementation of a patient educational program.

Methods
Our supportive care center (SCC) provides every patient with an educational material (EM) on safe opioid use, storage, and disposal. We prospectively assessed 300 adult cancer outpatients receiving opioids in our SCC who received EM and compared to 300 patients who had not received EM. The previously used questionnaires pertaining to opioid use, storage and disposal was administered and demographic information was collected. Sharing or losing their opioids was defined as unsafe use.

Results
Patients who received EM were more aware of proper opioid disposal methods (76% vs. 28%, p<0.0001), less likely to share their opioids with someone else (3% vs. 8%, p=0.0311), less likely to practice unsafe use of opioids (18% vs. 25%, p=0.0344), and more likely to be aware the danger of their opioids when taken by others (p=0.009). Patients who received the EM were less likely to have unused medication at home (38% vs. 47%, p=0.0497), and more likely to keep their medications in a safe place (hidden 75% vs. 70%; locked 14% vs. 10%, p=0.0025).

Conclusions
An EM on opioid safety in patients with advanced cancer was associated with improved patient reported safe opioid use, storage and disposal.

PS058
RESULTS OF EDUCATIONAL PROGRAM OF "SUPPORTIVE CARE IN ONCOLOGY" IN RUSSIA
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Introduction
The introduction of modern scientific data and practical recommendations for supportive care in oncology

Objectives
Russian interregional project “Schools of supportive care” for the Russian oncologists, started in 2013. For 2 years of school were held in 14 cities of Russia: Kursk, Ufa, Kazan, Yekaterinburg, Chelyabinsk, Novosibirsk, Rostov-on-Don, Krasnodar, Kaliningrad, Yaroslavl, Tomsk, Tyumen, Astrakhan, Saratov. The program was attended by 480 oncologists.

Methods
In terms of education experts were presented the basic principles of supportive care to cancer patients in the development of complications and the new developments in this area. Schools were held in one-day and conducted in regional cancer hospital. The training plan was based on the Russian recommendations of supportive care, and includes the following sections: anemia, prevention of febrile neutropenia, CINV, bone-modifying agents, nutritional support, target toxicity, fungal infections, the prevention of VTE, hepatotoxicity. Also conducted testing in practical recommendations before starting school, and at its end. The tests included on the 3 questions on the following topics: anemia, hepatotoxicity, bone-modifying agents, antiemetic prophylaxis, G-CSF, nutritional support, target toxicity. Thus, every oncologist answered 21 questions, which took an average of about 20 minutes.

Results
Serious gaps in knowledge were anemia, bone-modifying agents, prevention of high and moderate emetogenic chemotherapy, the kinds of prevention of FN and the appointment of G-CSF, indications for nutritional support, correction of target drugs of adverse events and prevention
of dermatological toxicity.

Test results of 14 cities (n=480)

Conclusions
Thus, this project has shown the need for continuous training of oncologists of supportive care. The best method is a full-time education.

PS059
DEVELOPING NATIONAL INDICATORS TO MEASURE PROGRESS IN PERSON-CENTRED CANCER CARE
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Introduction
Providing person-centered care is one of the hallmarks of quality cancer care. Measuring performance regarding this quality dimension is an evolving field.

Objectives
Over the past two years, the Canadian Partnership Against Cancer has been working with a pan-Canadian Measurement Steering Committee to define and develop national indicators to monitor progress in Person-Centred Care across the cancer journey.

Methods
The initial phase included an extensive review of the literature and jurisdictional scans to identify a preliminary list of indicators. The second phase of work focused on refining the indicators and categorizing them into feasible and developmental. Feasible indicators were further explored in relation to data sources, and potential to collect and analyze the data. Developmental indicators were targeted for future work on the basis that there were few current data sources.

Results
The purpose of this presentation will be to describe our initial list of indicators which include patient reported outcomes, palliative/end of life and survivorship care considerations and describe the process of development and data collection. Our emphasis has been to identify system level performance indicators deemed feasible to collect for baseline reporting and assist organizations and system leaders to understand the current state and plan for quality improvements that will ultimately impact person centred care.

Conclusions
Monitoring progress for person centered care is important but requires consensus about the indicators to be measured.

PS060
IMPACT EVALUATION OF CANCER INFORMATION AND SUPPORT SERVICES IN AUSTRALIA, UK AND USA
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Introduction
Cancer Information and Support (CIS) Services are an important source of practical, informational and emotional support for people affected by cancer worldwide. They typically include cancer helplines and associated services which act as a useful adjunct to health services. CIS services are rarely evaluated for their contribution to outcomes that extend beyond customer satisfaction. Cancer Council Victoria (Australia), Cancer Research UK and the American Cancer Society collaborated in a world first study which aims ultimately to develop a measure for routine evaluation of CIS services internationally.

Objectives
Develop an in depth understanding of the rationale, experiences, evaluation and outcomes of using CIS services.

Methods
Callers to a CIS in Australia, UK and the USA over a 2 month period were invited to be interviewed about their experience of service use. Interviews were recorded, de-identified, transcribed and thematically analysed.

Results
Thirty service users (10 from each CIS) were interviewed: n=19 people with cancer and n=11 carers. Three key themes emerged: i) Drivers for access: A sense of needing information, “trueness” or support to be able to move on; ii) Experience: What the service user was met with and what they came away with; iii) Impact: What the service or the interaction with the nurse resulted in or enabled.

Conclusions
CIS nurses act as navigators, educators and therapeutic communicators to enable callers to better understand and contextualise their situation and the support options available to them. Service use enhanced confidence and competence to manage own health and get the most from the healthcare team.
PS061

EVALUATING THE COST EFFECTIVENESS OF SHARED FOLLOW-UP CARE FOR EARLY BREAST CANCER IN AUSTRALIA

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Introduction

In Australia approximately 15,740 new cases of breast cancer will be diagnosed in 2015. In 2009, 59,400 Australians were living with a breast cancer diagnosis. Shared follow-up care for early breast cancer provided by general practitioners is feasible, safe and effective, with no differences in survival, recurrences or serious clinical events.

Objectives

To undertake an economic evaluation and financial impact analysis to examine the cost of shared follow-up care for early breast cancer in general practice (GP) compared to a specialist-led setting.

Methods

A 5-year financial impact analysis was estimated together with a 20-year (lifetime) economic analysis to compare the potential (full) cost of follow-up care in the specialist-led and GP settings.

Results

Preliminary findings indicate that overall there is potential for significant cost and time savings at the health system, health service provider and patient levels.

Conclusions

Shared follow-up care for early breast cancer has the potential to deliver economic and financial value for the health system, health service provider and patient, including specialist workforce time freed for newly diagnosed patients with early breast cancer.

PS062

ADVERSE EVENT (AE) ATTRIBUTION IN SYMPTOM INTERVENTION TRIALS

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Introduction

Assignment of AE attribution (as unrelated, unlikely, possibly, probably, and definitely related to the treatment) adds time and cost to the trial process. External factors have been shown to affect attribution reporting. Hillman et al. (2010) showed that 50% of AEs in the placebo arms of two multicenter cancer treatment trials were reported as related to the study drug.

Objectives

To evaluate the patterns of AE attribution in symptom intervention trial setting.

Methods

Two multicenter placebo-controlled symptom intervention trials were analyzed separately (823 patients, 5886 AEs). Frequency and severity of AEs were summarized by arm. Attribution and percentage of repeated AEs whose attribution changed overtime were summarized for the placebo arms. Percentage of physician over- or under-reporting of AE relatedness was calculated for the treatment arms using the placebo arm as the reference.

Results

The frequency and severity of AEs observed in treatment and placebo arms were similar. 12% and 24% of AEs in the placebo arm were reported as at least possibly related to the treatment. Attribution changed in 25% and 34% of repeated AEs with 10% and 17% changed from related to unrelated or vice versa. See Table 1 for details. Fatigue, constipation, and diarrhea were commonly over-reported.

Conclusions

Up to 24% of AEs in the placebo arms were reported as related to the treatment. This combined with up to 17% change in relatedness of the same AEs reported in more than one cycle for the same patient suggests that assignment of AE attribution in this setting is also unreliable and subjective.

PS063

PREVALENCE OF DEMENTIA AND MILD COGNITIVE IMPAIRMENT IN OLDER CANCER PATIENTS WITH SOLID TUMOR CANCERS

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Introduction

Older adults are at especially high risk for age related disability and cancer therapy related complications. Neurotoxic effects of cancer therapy have been previously described.

Objectives

To study the prevalence of dementia and mild cognitive impairment (MCI) in older solid tumor cancer patients.

Methods
Retrospective analysis of older patients were evaluated at the Healthy Aging Program at MD Anderson Cancer Center (1-1-2013 to 3-31-2015). Cognitive assessments performed with personal interviews, the Montreal cognitive assessment (MoCA); functional assessment with Katz’ ADLs and Lawton’s IADLS. Depression screened with PHQ-9. Traditional risk factors for dementia were assessed. Level of education was assessed and utilized in scoring MoCA. MCI was defined as an abnormal MoCA without functional impairment, dementia, as an abnormal MoCA with absence of 2 IADLs (managing finances, inability to take own medications, inability to travel alone, and using the telephone). Imaging and assessment for reversible factors of memory loss was conducted.

Results
One hundred and thirty patients underwent geriatric assessment, age range 65 – 90 years. Mean age 79.9 ± 6.6 years. Patients were euthymic. Eighty-two cases had some degree of cognitive impairment, with 35 cases (27%) dementia, and 47 cases MCI (36%). Early stage dementia was evidenced in 15 cases (43%), moderate stage in 16 (46%), and severe stage in 4 cases (11%). The prevalence of MCI was increased five-fold as compared to national estimates (p=0.001)

Conclusions
MCI and dementia are common in older solid tumor cancer patients. Identification and management of these conditions are of great relevance in the course of cancer therapy.

PS064
MINIMAL CLINICALLY IMPORTANT DIFFERENCES IN THE EORTC QLQ-BM22 AND EORTC QLQ-C15-PAL MODULES IN PATIENTS WITH BONE METASTASES
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3Juravinski Hospital and Cancer Centre and McMaster University, Oncology, Hamilton, Canada
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8Grand River Regional Cancer Centre- Grand River Hospital, Radiation Oncology, Kitchener, Canada
9London Regional Cancer Program, Radiation Oncology, London, Canada
10Caner Centre of Southeastern Ontario- Kingston General Hospital, Radiation Oncology, Kingston, Canada
11Cross Cancer Institute, Radiation Oncology, Edmonton, Canada

Conclusions
We present the MCID scores for the EORTC QLQ-BM22 and QLQ-C15-PAL QOL instruments. The results of this study can guide clinicians in the interpretation of these instruments.
PS067

INCIDENCE OF BONE METASTASES IN US PATIENTS WITH SOLID TUMORS
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Introduction
Solid tumors frequently metastasize to bone, which can lead to serious bone complications. Population-based estimates of bone metastasis incidence are limited, often based on autopsy data, and may not reflect recent treatment advances.
**Objectives**
To estimate real world incidence of bone metastases in patients with solid tumors.

**Methods**
Electronic medical records (OSCER, Oncology Services Comprehensive Electronic Records, 569,000 patients, 52 US cancer centers) were used to identify patients ≥18 years newly diagnosed with a solid tumor between 1/1/2004 and 12/31/2013, excluding patients with hematologic tumors or multiple primaries. Kaplan-Meier analyses quantified bone metastasis incidence with follow-up censored at last clinic visit, new primary tumor, bone metastasis, or 12/31/2014. Estimates were stratified by tumor type, stage at diagnosis, and calendar year.

**Results**
Among 382,733 patients (mean age 64 years; mean follow-up 940 days), breast (36%), lung (15%), and colorectal (12%) tumors were most common. Mean time to bone metastasis was 410 days, with 10-year incidence 4.5% (95% CI 4.4–4.7), 5-year 6.7% (95% CI 6.7–6.8), and 10-year 8.2% (95% CI 8.1–8.3). Incidence varied substantially by tumor type and stage at diagnosis (stage IV 5-year 23.1% [95% CI 22.7–23.6]). Prostate cancer incidence was highest (stage IV 10-year 71.1% [68.2 – 73.9]) (Table).

<table>
<thead>
<tr>
<th>Tumor Type</th>
<th>10-Year Incidence</th>
<th>5-Year Incidence</th>
<th>1-Year Incidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>4.5% (95% CI 4.4–4.7)</td>
<td>6.7% (95% CI 6.7–6.8)</td>
<td>8.2% (95% CI 8.1–8.3)</td>
</tr>
<tr>
<td>Lung</td>
<td>15%</td>
<td>6.7% (95% CI 6.6–6.8)</td>
<td>8.2% (95% CI 8.1–8.3)</td>
</tr>
<tr>
<td>Colorectal</td>
<td>12%</td>
<td>6.7% (95% CI 6.6–6.8)</td>
<td>8.2% (95% CI 8.1–8.3)</td>
</tr>
<tr>
<td>Prostate</td>
<td>71.1%</td>
<td>68.2% (95% CI 68.0–68.3)</td>
<td>73.9% (95% CI 73.6–74.2)</td>
</tr>
</tbody>
</table>

**Conclusions**
This study estimated bone metastasis incidence using real world electronic medical record data from oncology practices in the US. Underestimation is possible given reliance on coded diagnoses. National prevalence may be estimated using these more recent incidence data otherwise not available in cancer registries.

**PS068**

**WHAT IS THE ROLE OF COMORBIDITY, FRAILTY AND FUNCTIONAL STATUS IN TREATMENT DECISION-MAKING FOR OLDER CANCER PATIENTS AND THEIR FAMILY MEMBERS, ONCOLOGISTS, AND FAMILY PHYSICIAN?**


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**Introduction**
Little is known about the treatment decision making process (TDMP) in older adults (OA) with cancer.

**Objectives**
This study seeks to better understand this process.

**Methods**
This is a mixed methods multi-perspective longitudinal study. OAs aged > 70 years with advanced prostate, breast, colorectal, or lung cancer, their family members, oncologists and family physicians were invited to participate in interviews. Each OA also completed a short survey to characterize their health, decision-making preferences, and satisfaction with the TDMP. The sample was stratified on age (70-79 and 80). All interviews are analyzed using the grounded-theory approach.

**Results**
32 first interviews and 16 second interviews have been completed with 32 OAs, 21 family members, 12 family physicians and 8 oncologists. Most OAs felt that they should have the final say in the treatment decision, but strongly valued their physician’s opinion. Most participants felt they received enough information, time and support from the oncologist to make their decision. Half of participants went to see their family physician to talk about the diagnosis and plan. Comorbidity and potential side-effects did not play a major role in the TDMP for patients and families but it did for oncologists. Family physicians reported little involved in TDMP and they preferred more timely information. Satisfaction with the TDMP was high for OAs and family members and did not change over time.

**Conclusions**
Patients and family members were generally satisfied with the treatment decision making process. Final results will be presented at the conference.

**PS069**

**POINT OF CARE CLINICAL DECISION SUPPORT FOR CANCER SYMPTOM MANAGEMENT: RESULTS OF A GROUP RANDOMIZED TRIAL.**

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Introduction
Oncologists may improve quality outcomes by utilizing expert assistance in managing patients’ multiple symptoms.

Objectives
Determine whether Clinical Decision Support (CDS) provides actionable, acceptable expert management advice for multiple symptoms.

Methods
20 oncologists and their patients were randomized to usual care (UC) or CDS using SAMI (Symptom Assessment and Management Intervention). SAMI provided patient-tailored suggestions for pain, fatigue, depression, anxiety and/or dyspnea. 179 patients completed a Web-based symptom assessment before each visit for 6 months. Clinicians received a longitudinal symptom report and specific management suggestions for SAMI patients prior to the visit. Standardized questionnaires measuring symptoms and health-related quality of life (HR-QOL) were administered to UC and SAMI patients at baseline, 2, 4 and 6 months. Treatment outcome index (TOI), measuring physical and functional well-being, was the primary outcome for HR-QOL. Clinician acceptance of symptom management recommendations was assessed through chart review. Analyses included: descriptive statistics, GEE, logistic regression.

Results
Patient mean age: 63 years, 58% female, 88% white; 32% had < HS education. There was a clinically significant difference in the TOI (62 vs. 68) at 4 months in SAMI compared to UC. Palliative care consults for pain were three-fold higher (3.2, 90% CI, 3.7-3.4), and overall management of depression (1.6, 90% CI, 1.0-2.5), anxiety (1.7, 90% CI, 1.0-3.0) and fatigue (1.6, 90% CI, 1.1-2.5) was better in the SAMI group.

Conclusions
Significant differences were noted in SAMI patients at 4 months for enhanced HR-QOL. SAMI increased palliative care consults for pain, and appeared to positively influence management of depression, fatigue and anxiety.

Introduction
Chemotherapy related side effects are significant cause of morbidity and mortality in cancer patients.

Objectives
Understanding related socio-demographic factors leading to such toxicities may enable us to manage them better. There is no study that particularly evaluate possible role of socio-demographic characteristic chemotherapy related side effects.

Methods
Between May 2014 - 31 October 2014, 249 patients from Medical Oncology Department of Baskent University were included. These patients are from four major cities located at the south part of the Turkey: Adana (n=97), Mersin (n=62), Hatay(n=64), Osmaniye(n=9) and the others(n=17). Socio-demographic parameters like city-town, educational status, social support (from government and family members) along with commonly used parameters (tumor, patients and treatment characteristics) were recorded prior to the first cycle of chemotherapy and patients were followed up.

Results
There were 114 (% 45.8) male and 135 (% 54.2) female patients. Median age was 52 years(range 18-85). Statistical analyses showed that there was significant relation between educational status and mucositis (p=0.03), infection rate (p=0.02), and thrombocytopenia (p=0.01). Patients older than 65 years old had significantly higher rate of grade 3-4 chemotherapy related side effects (p=0.001), grade 3-4 hematological toxicity (p=0.003). Also, statistical analysis showed significantly increased rate of grade 3-4 chemotherapy related side effects (p=0.003), nausea,vomiting (p=0.01) and acute renal failure (p=0.001) in hospitalized people compared to out-patient clinic.

Conclusions
This study showed that age and educational status had significant effect on chemotherapy toxicities. So, this study suggest that sociodemographic characteristics may be another important factor beside the patient, tumor and, treatment characteristics in decision-making process of cancer patients.
**Introduction**

Benzydamine is recommended for prophylaxis of oral mucositis (OM) in head and neck cancer (HNC) patients for radiation doses (<50 Gray).

**Objectives**

This study evaluates the role of Benzydamine for higher radiation doses (>50 Gray) with or without chemotherapy.

**Methods**

120 patients of HNC with planned radiation doses of =>60 Gray were randomized to Group A (control radiotherapy alone), Group B (study radiotherapy alone), Group C (Control chemo-radiotherapy) or to Group D (study chemo-radiotherapy). Group A and C were advised saline mouth rinses and in Group B and D additional Benzydamine rinses (0.15%) were advised. Mucositis grading was done with both WHO (WHO-M) as well as CTCAE (CTC-M) version 4.0 (common terminology criteria for adverse events) weekly.

**Results**

Patient characteristics are in Table 1. Patients in Group B had lesser grade 3 WHO-M and CTC-M as compared to Group A, 62.1% vs. 36.4% (p=0.038) and 51.7% vs. 27.3% (p=0.043) respectively. The rates of Ryles tube feeding (RTF), intravenous fluid supplementation (IVF) and hospitalization were also lesser in Group B as compared to A, 34.5% vs. 21.2% (p=0.18); 27.6% vs. 9.1% (p=0.06); 6.9% vs. 0% (p=0.21) respectively. WHO-M and CTC-M in Groups C and D were not statistically different, 64.3% vs. 53.6% (p=0.091) and 53.6% vs. 43.3% (p=0.30) respectively. The rates of RTF, IVF and hospitalization were all lesser but p>0.05.

**Conclusions**

Benzydamine significantly reduces OM even at doses >50 Gray in HNC patients. Its role in patients receiving concurrent chemotherapy further needs to be evaluated.

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**PS072**

SGX942 REDUCES THE DURATION OF SEVERE ORAL MUCOSITIS (OM) IN HEAD AND NECK CANCER (HNC) PATIENTS IN A PHASE 2 PLACEBO-CONTROLLED, DOUBLE-BLINDED RANDOMIZED TRIAL

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**Introduction**

SGX942 is a first-in-class drug with a novel mechanism of action, modulating the innate immune system to decrease inflammation and enhance bacterial clearance and tissue healing. Chemoradiation associated OM has been linked to dysfunctional inflammation stimulated by the innate immune system.

**Objectives**

To assess the efficacy of SGX942 compared to placebo in attenuating the duration and incidence of severe oral mucositis in HNC patients undergoing chemoradiation therapy.

**Methods**

This Phase 2 trial enrolled 111 patients treated twice per week during radiation therapy with a 4-minute IV infusion. The WHO-Grade was used to score the severity of OM through one month after the end of chemoradiation.

**Results**

Compared to placebo patients, patients receiving 1.5 mg/kg of SGX942 had a 50% reduction in duration of severe OM (9 days versus 18 days; Figure 1) and a corresponding trend in reductions in incidence and AUC. In patients receiving aggressive cisplatin, SGX942 at 1.5 mg/kg decreased the duration of severe OM by 67% and ulcerative OM by 22%. Additionally, the number of patients with a “complete RECIST response” was increased at the initial follow-up visit from 39% to 47%. Reported infections were also decreased with SGX942, consistent with the nonclinical biology findings.

**Conclusions**

SGX942 appears to be a promising treatment for OM in HNC patients undergoing chemoradiation therapy and may offer ancillary benefits outside of OM.

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**PS073**

THE IMPACT OF A SIMPLIFIED DOCUMENTATION METHOD FOR THE EDMONTON CLASSIFICATION SYSTEM FOR CANCER PAIN (ECS-CP) ON CLINICIAN UTILIZATION
Introduction
The use of standardized pain classification systems such as the ECS-CP can assist in the assessment and management of cancer pain. However, its completion has been limited due to the perceived complexity of decoding the individual symbols of each feature.

Objectives
The objectives of this study were to determine the rate of clinician documentation and completion of the ECS-CP features after revision and simplification of the response for each feature.

Methods
Electronic records of consecutive patient visits at the outpatient supportive care center seen by 12 palliative medicine specialists were collected during 3 study periods: 6 months before (pre-interventional period), 6 months and 24 months after (post-interventional period) the implementation of the simplified ECS-CP tool. Rate of ECS-CP documentation, completion, and analysis of patient and physician predictors were completed.

Results
1012 patients’ documentation was analyzed: 343 patients before, 341 six months after, and 328 twenty four months after the intervention. ≥2/5 items were completed before the intervention, 6 months after the intervention and 24 months after intervention in 0/343 (0%), 136/341 (40%), and 238/328 (73%) respectively [p<0.001]. 5/5 items were completed before the intervention, 6 months after the intervention and 24 months after intervention in 0/343 (0%), 131/341 (38%), and 222/328 (68%) respectively [p<0.001]. No patient or physician predictors were found to be significant for successful documentation of ECS-CP items.

Conclusions
Our findings suggest that significant simplification of the scoring system and intensive education is necessary for successful adoption of a scoring system. More research is needed in adopting these tools for daily clinical practice.

PS074
AN ‘EXPERT’ MODEL OF COMPASSION:
ADVANCED CANCER PATIENTS PERSPECTIVES
AND EXPERIENCES OF COMPASSIONATE CARE
S. Sinclair

Introduction
Compassion is increasingly recognized as a key component of a person centred approach within comprehensive cancer care. Unfortunately, it is a construct that has not been adequately explored within clinical research, particularly from the perspective of patients. What is compassion according to patients? What are the key characteristics of compassionate care providers? What is the impact of compassion for advanced cancer patients?

Objectives
An overview of the findings of a scoping review of the healthcare literature and the findings of a large qualitative study of advanced cancer patients will be presented. The compassion model, delineating the key features of compassionate care from the perspective of patients will be explained.

Methods
After conducting a 25 year scoping review of the health care literature, qualitative interviews with 53 advanced cancer in-patients at a large urban teaching hospital were conducted to address a significant gap in the literature—the lack of patient perspectives on the topic of compassion. Interviews were recorded, transcribed and analyzed in accordance with Grounded Theory methodology.

Results
53 patients identified the key elements of compassion, depicted in the first patient informed model of compassion. Patient exemplars on the motivators, facilitators, inhibitors and impact of compassion produced seven core elements of compassionate care.

Conclusions
While compassion is a liberally employed term in clinical practice, healthcare policy and within the healthcare literature, the greatest proponents of compassionate care are patients themselves. The compassion model provides an empirical foundation for future research and evidenced based clinical care that aims to enhance this essential ingredient of quality care.
underwent subtotal gastrectomy (n = 81). The patients’ cancer stages ranged from 0 (n=4) to III (n=40). More than half of the patients (52.5%) were malmnourished or at risk. Results of multivariate linear regressions showed that gastrointestinal symptom distress, working status, and concerns in food preparation were significant predictors for nutritional status. The three variables together explained 35.8% of the variation ($F= 19.56$, $p=0.022$) in nutritional status.

**Conclusions**
Gaistic cancer patients are at risk for malnourish after gastrectomy and should be evaluated closely. Special attention should be paid to those who have a higher level of gastrointestinal symptom distress, a greater difficulty in food preparation, and is not currently holding a job.

Weight loss occurred in 5-FU treated animals, potentiated by BUP and TRAM exposure ($p<0.01$). 5-FU significantly increased MPO levels in the jejunum ($p<0.001$). However, co-administration of TRAM and BUP markedly decreased jejunal MPO activity ($p=0.0001$ and 0.0002, respectively). Thoracic GFAP expression increased in 5-FU controls ($p<0.01$), yet was attenuated by BUP ($p<0.05$). CAR had no effect on intestinal MPO activity, yet elevated thoracic GFAP compared to saline controls ($p<0.001$). Interestingly, BUP and CAR elevated thoracic CD11b ($p<0.05$).

**Conclusions**
Buprenorphine, tramadol and carprofen influence the neuro-immune system via glial mechanisms. Future studies investigating glial morphological changes and pain responses should clarify functional cellular adaptations and the interplay between mucosal injury, pain signalling and cognitive consequences following 5-FU exposure.

**Introduction**
Analgesic selection for chemotherapy recipients is challenging due to the risk of exacerbating gastrointestinal symptoms. Chemotherapy commonly induces intestinal mucositis, pain and cognitive impairment. Neuro-immune glial cells are sensitive to analgesics, modifying pain signalling and cognition.

**Objectives**
We hypothesised that glial changes would contribute to pain signalling and affect higher order brain regions in a rat model of intestinal mucositis utilising clinically relevant analgesics.

**Methods**
Female DA rats (8 groups; n=8) were injected intraperitoneally with saline or 5-Fluorouracil (5-FU; 150mg/kg) in combination with 12 hourly administration of opioid derivatives (buprenorphine; BUP, 0.05mg/kg or tramadol; TRAM, 12.5mg/kg) or NSAID (carprofen; CAR, 15mg/kg). Rats were killed 72 hours after saline/5-FU injection. Myeloperoxidase (MPO) assay assessed intestinal inflammation. Hippocampal and thoracic glial changes were quantified by western blot for glial-fibrillary acidic protein (GFAP; astrocyte), CD11b (microglia) expression and pro-IL1β.

**Results**

**Conclusion**
Buprenorphine, tramadol and carprofen influence the neuro-immune system via glial mechanisms. Future studies investigating glial morphological changes and pain responses should clarify functional cellular adaptations and the interplay between mucosal injury, pain signalling and cognitive consequences following 5-FU exposure.
moderate concordances among the dyads. Sixteen out of 21 dyads nominated their spouses as a proxy, with the others designating descendants.

Conclusions
The findings support the need for ongoing EOL discussion where patients are encouraged to participate in the decision-making for their EOL care.

Conclusions
When distress is identified on screening, the QUAL-EC offers good potential for nuanced, versus vague, assessment of globalised distress (e.g., DT) as an aid in targeting patient-centered clinical/psycho-social interventions.

EVALUATING THE UTILITY OF THE QUAL-EC IN THE CLINICAL CARE OF PATIENTS WITH ADVANCED CANCER

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Introduction
Evaluation of the utility and feasibility of the Quality of Life at End of Life-Cancer (QUAL-EC) instrument when administered as an interview.

Objectives
We compared the 17-item QUAL-E-Cancer (QUAL-EC) to the Distress Thermometer Screening Tool (DT) and participants’ experience.

Methods
A cross-sectional, mixed methods design was used. Convenience sampling recruited patients (N=50) with advanced cancer and a prognosis of less than 12 months from a tertiary hospital. Participants completed the DT, followed by the QUAL-EC which was digitally recorded as an interview.

Results
Correlational and thematic analysis found that 39.6% of participants reported severe distress (score ≥7) while 40% reported moderate distress (score 4-6) on the DT. Levels of distress significantly correlated with two QUAL-EC domains: symptom control (r=0.52, p<0.001) and preparation for end of life (r=0.32, p<0.05). Qualitative analysis identified six themes: the health care team; family issues; approaching death; worry; coping and QUAL-EC experience. Feasibility: completion of the QUAL-EC ranged from 3-14 minutes (M=7.37 minutes, SD 3.05 minutes).

Acceptability: Participants overwhelmingly found the questions to be clear and did not find the questions hard to understand, hard to answer or stressful. Ninety per cent of participants agreed or strongly agreed that they were glad they took part.

Conclusions
Participants overwhelmingly found the questions to be clear and did not find the questions hard to understand, hard to answer or stressful. Ninety per cent of participants agreed or strongly agreed that they were glad they took part.

Conclusions
When distress is identified on screening, the QUAL-EC offers good potential for nuanced, versus vague, assessment of globalised distress (e.g., DT) as an aid in targeting patient-centered clinical/psycho-social interventions.

NEUROPHYSIOLOGICAL CHANGES ASSOCIATED WITH SUNITINIB FATIGUE SEVERITY

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Introduction
Introduction:
Sunitinib causes fatigue, the cause is unknown.

Objectives
We used transcranial magnetic stimulation (TMS), electromyography (EMG) and peripheral electrical stimulation (M-wave testing) to investigate fatigue with the first cycle of sunitinib.

Methods
9 patients underwent resting TMS, EMG, M-wave and strength testing of the first dorsal interosseous (FDI) muscle pre and post sunitinib. Outcomes were M1 excitability, motor map output and area to FDI, maximum voluntary contraction (MVC), EMG amplitude (RMS), mean power frequency (mfp), M-wave amplitude and dispersion at rest, 30% MVC and/or MVC. Post-pre changes were correlated with fatigue measured by the Brief Fatigue Inventory (BFI).

Results
Patients experienced fatigue (BFI change from 3.0 to 5.5; z=2.5, p=0.01). Excitability of M1 increased with treatment (z=2.4, p=0.02); FDI motor output was reduced (z=2.2, p=0.03) with no change in motor map area (Spearman ρ=0.80, p=0.01). Despite reduced MVC (2.6 to 1.3; p=0.04) with treatment, EMG RMS increased with 30% MVC (p=0.03) and resting M-wave RMS (p=0.01). The greater the increase in fatigue, the greater the change in EMG RMS and mfp with MVC (ρ=0.80, p=0.01 and ρ=0.93, p<0.001) and 30% MVC (ρ=0.47, p=0.04 and ρ=0.74, p<0.001) and the greater the M-wave dispersion (ρ=0.85, p<0.001).

Conclusions
Sunitinib causes peripheral fatigue with uncoupling of excitation contraction and reactive reduction in FDI motor map in M1 cortex. Sunitinib blocks AMP kinase which is governs muscle ATP/AMP. AMP kinase inhibition would explain excitation / contraction uncoupling demonstrated by M-wave dispersion.
**PS080**

COMPASSION FATIGUE, BURNOUT, AND COMPASSION SATISFACTION AMONG ONCOLOGY NURSE WITHIN AN INTERNATIONAL SETTING

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**Introduction**

oncology nurse’s experience of CF, BO, and CS is similar in most clinical settings.

**Objectives**

To explore the oncology nurse’s experience of compassion fatigue (CF), burnout (BO), and compassion satisfaction (CS) in oncology nurses within the United States and Canada in order to examine the various levels of CF, BO, and CS within the international setting.

**Methods**

Online version of the ProQOL R-V measured the risk for compassion fatigue and burnout and likelihood for compassion satisfaction among conveniently sampled members of the Oncology Nursing Society (ONS) and the Canadian Association of Nurses in Oncology (CANO), utilizing online data collection software ‘FluidSurveys’. The modified Abendroth Demographic Questionnaire gathered demographic, health, and work-related factors. Descriptive statistics and Chi-square tests of independence was used to determine association between demography, health, and work-related factors and risk for CF, BO, and CS.

**Results**

602 responses with 486-ONS and 63-CANO members reported comparable experiences of CF/BO/CS amongst oncology nurses in both countries. Perception of team cohesiveness within the workplace environment was significant in both cohorts as indicated by significant relationship in all three subscales. Work-related characteristics addressed relating to experiences of secondary traumatic stress, BO/CS, resulted with number of significant findings within U.S. cohorts. Experience of CF was significant if nurses encountered traumatic death and when nurses felt need to sacrifice their own personal/psychological needs to satisfy patients.

**Conclusions**

Results identified stress factors unique to oncology nurses and elements that help prevent risk for CF/BO. Identifying these factors will guide in the development of interventions and support future institutional changes.

**PS082**

COMMUNAL COPING IN FAMILIES AT RISK OF LYNCH SYNDROME.

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**Introduction**

Lynch Syndrome (LS) is a dominantly inherited cancer susceptibility syndrome. Genetic services offer the opportunity to identify the mutation status of those at risk. When faced with this information, family members must cope with their individual and shared risk status.

**Objectives**

While a small body of research has examined stress and coping in LS families receiving genetic services, there is limited information about such interpersonal processes in those who decline genetic services. Using social network methods, we examine the structural characteristics of conflict and support in families affected by LS.

**Methods**

Approximately three years following identification of the family mutation, 157 individuals from 34 families enumerated social network members and indicated who...
provided social support and with whom they were in conflict.

**Results**

Individuals who received genetic services reported less conflict with and more emotional support from network members than those who declined. Consideration of family network structure showed a decreased likelihood for those declining genetic services to receive emotional support from those who received genetic services. Moreover, there was an increased likelihood for emotional support exchange among those who shared support partners, suggesting ongoing communal coping in response to genetic testing and cancer risk.

**Conclusions**

The elevated conflict and diminished emotional support experienced by individuals who declined genetic services may help explain their reluctance to receive such services, and undermine their willingness to pursue future testing. Further, communal coping among those receiving genetic services may bond such family members and marginalize those who decline testing.

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**PS083**

**QUALITY OF LIFE, EFFICACY AND PATIENT-REPORTED OUTCOME WITH NEPA AS CINV PROPHYLAXIS IN HIGHLY OR MODERATELY EMETOGENIC CHEMOTHERAPY**

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**Introduction**

Since 2015, a fixed oral combination of the NK₁-receptor antagonist (RA) netupitant and the 5-HT₃-RA palonosetron has been available in the EU for the prevention of acute and delayed chemotherapy-induced nausea and vomiting (CINV) in cancer patients receiving cisplatin-based highly emetogenic (HEC) or moderately emetogenic chemotherapy (MEC).

**Objectives**

Primary objective is the evaluation of quality of life (QoL) in adult cancer patients receiving NEPA for CINV prevention in MEC or HEC. Secondary endpoints are efficacy and safety of NEPA. The study is performed under real life conditions in German oncology and gynaecology practices and hospitals.

**Methods**

This non-interventional study evaluates CINV prophylaxis with NEPA and QoL in 2500 cancer patients receiving single day or two day MEC or HEC (10-20 patients / participating center) treated in > 100 German centers (min. 125, max. 250 centers). NEPA is prescribed in accordance with the EU marketing authorization. The primary endpoint is quality of life as recorded by FLIE questionnaire. Secondary endpoints are efficacy measured as complete response (CR, no vomiting, no rescue medication), additional medication, and safety. 3 consecutive chemotherapy cycles will be documented online in the ODM QuaSi documentation system. All specifications in the online documentation must be verifiable.

**Results**

The study is in ongoing. At abstract submission, 178 patients treated in 129 centers (69 gynaecologic oncology, 58 medical oncology, 2 urologic oncology) were included. The majority (118 patients) had breast cancer.

**Conclusions**

Updated patient numbers and first data on quality of life, efficacy and toxicity will be presented at the meeting.

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**PS084**

**ROLAPITANT FOR CONTROL OF CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING (CINV) IN PATIENTS WITH LUNG CANCER**

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**Introduction**

Rolapitant, a long-acting neurokinin-1 receptor antagonist, protected against CINV in phase 3 trials of patients with various tumors, including lung cancer, administered highly or moderately emetogenic chemotherapy (HEC or MEC).

**Objectives**

This post hoc analysis of 2 pooled HEC studies and 1 MEC study assessed rolapitant efficacy and safety in patients with lung cancer.

**Methods**

In 3 randomized, double-blind trials, patients received 180 mg oral rolapitant or placebo prior to HEC or MEC. All patients received a 5-hydroxytryptamine type 3 receptor antagonist and dexamethasone. Endpoints included complete response (CR; no emesis and no use of rescue medication), no emesis, no nausea (maximum visual analogue scale [VAS] <5 mm), and complete protection (CP; no emesis, no use of rescue medication, and no significant nausea [maximum VAS <25 mm]) in the overall (0–120 h), acute (<24 h), and delayed (>24–120 h) phases.

**Results**

In all, 467 patients with lung cancer received cisplatin-based HEC and 220 received MEC (95.5% carboplatin-based). In each phase, rates of CR, no emesis, no nausea, and CP were numerically higher with rolapitant in pooled HEC studies and MEC study. Statistical significance was achieved in all
Conclusions
Rolapitant is effective for CINV control in patients with lung cancer receiving cisplatin-based HEC or carboplatin-based MEC.

PS085
PROPHYLAXIS OF RADIATION-INDUCED NAUSEA AND VOMITING: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS
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Introduction
Radiation-induced nausea and vomiting (RINV) can develop in 50-80% of patients receiving radiotherapy.

Objectives
To systematically review the efficacy of various antiemetics in prophylaxis of RINV.

Methods
A literature search of Ovid MEDLINE, EMBASE and Cochrane CENTRAL was performed to identify randomized controlled trials (RCTs) that evaluated the efficacy of prophylaxis for RINV in patients receiving radiotherapy to abdomen/pelvis, including total body irradiation (TBI).

Primary endpoints were complete control of nausea and complete control of vomiting during acute and delayed phases. Secondary endpoints included use of rescue medication, quality of life and incidence of adverse events.

Results
17 RCTs were identified. Among patients receiving radiotherapy to abdomen/pelvis, our meta-analysis showed that 5-hydroxytryptamine-3 receptor antagonists (5HT3RAs) were significantly more efficacious than placebo and dopamine antagonists in both complete control of vomiting (OR 0.49, 95% CI 0.33-0.72 and OR 0.17, 95% CI 0.05-0.58 respectively) and complete control of nausea (OR 0.43, 95% CI 0.26-0.70 and OR 0.46, 95% CI 0.24-0.88 respectively). 5HT3RAs were also more efficacious than rescue therapy and dopamine antagonists plus dexamethasone. The addition of dexamethasone to 5HT3RA compared to 5HT3RA alone provides a modest improvement in prophylaxis of RINV.

Among patients receiving TBI, 5HT3RA was more effective than other agents (placebo, combination of metoclopramide, dexamethasone and lorazepam).

Conclusions
5HT3RAs are more effective than other antiemetics for prophylaxis of RINV in patients receiving radiotherapy to abdomen/pelvis and TBI. Future RCTs should investigate the efficacy of newer agents such as aprepitant in addition to 5HT3RAs in prophylaxis of RINV during both acute and delayed phases.

PS086
ROLAPITANT FOR PREVENTION OF CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING (CINV) IN PATIENTS WITH BREAST CANCER
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Introduction
Addition of the neurokinin-1 receptor antagonist (RA) rolapitant to standard antiemetic therapy improved CINV control in a phase 3 trial of patients administered anthracycline/cyclophosphamide (AC)–based chemotherapy or non–AC-based moderately emetogenic chemotherapy.

Objectives
To assess in a post hoc analysis the efficacy and safety of rolapitant in patients with breast cancer who received AC-based chemotherapy (n=680) and those who received AC- or non–AC-based chemotherapy (n=845).

Methods
Patients were randomized 1:1 to double-blind treatment with 180 mg oral rolapitant or placebo plus an oral 5–hydroxytryptamine type 3 (5-HT3) RA and dexamethasone prior to chemotherapy. Endpoints included complete response (CR; no emesis and no use of rescue medication), no emesis, no nausea (maximum visual analogue scale [VAS] <5 mm), and complete protection (CP; no emesis, no use of rescue medication, and no significant nausea [maximum VAS <25 mm]) in the overall (0–120 h), acute (<24 h), and delayed (>24–120 h) phases.

Results
CR rates in both the overall and delayed phases were higher with rolapitant versus control in the AC and combined subgroups (P<0.05). Rolapitant also improved no emesis rates in the AC and combined subgroups in both the overall (P<0.001) and delayed (P<0.01) phases. The frequency of treatment-emergent adverse events overall was 69.2% for rolapitant versus 69.7% for control; the overall safety profile was comparable.

Conclusions
Rolapitant added to standard 5-HT3 RA/dexamethasone therapy improved CINV control in patients with breast cancer receiving AC-based chemotherapy and the overall
population of patients with breast cancer receiving AC-/non-AC-based chemotherapy.

PS087

INFORMED CONSENT IN CANCER CARE - A STUDY OF VICTORIAN PATIENTS’ EXPERIENCES
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Introduction
Informed consent, including informed financial consent, is a critical issue for cancer patients. Failure to obtain informed consent can result in negative medical or financial outcomes for patients, who may have chosen a different treatment path if fully aware of the benefits and risks of treatment options and associated costs. The literature suggests many cancer patients consider that they’re not given enough information to make informed treatment decisions.

Objectives
To obtain patient feedback regarding:
• how well legally and medically relevant information was provided by doctors to participants about their cancer diagnosis and treatment;
• whether participants felt able to make informed treatment decisions; and
• barriers that inhibited participants from understanding information provided to them.

Methods
An online survey and two focus groups (one with breast cancer patients, one with prostate cancer patients) with 113 people completed the survey and 19 participated in the focus groups. Most felt well informed about tests, the nature of their cancer, expected benefits and outcomes of treatment and what treatment would entail. Fewer felt well-informed about treatment options and risks, recovery times and possible negative long-term outcomes, including side effects. One third reported experiencing treatment side effects or harm that they were not warned about. More than one third had unexpected medical costs.

Conclusions
Greater understanding of barriers to informed consent in cancer care is required by health professionals to improve the consistency of information provision and consent-seeking.

PS088

QUALITIES ASSOCIATED WITH CHEMOTHERAPY-INDUCED PERIPHERAL NEUROPATHY (CIPN)
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Introduction
CIPN is the most prevalent neurologic complication of cancer treatment. Because no effective preventative or treatment strategies are available for CIN, it can result in delays or cessation of chemotherapy (CTX). A large amount of inter-individual variability exists in patients’ reports of the qualities of the pain associated with CIPN.

Objectives
Identify subgroups of patients with CIPN in the feet based on self-reports of pain qualities and evaluate for differences in demographic and clinical characteristics, symptoms, and quality of life (QOL) outcomes among the subgroups identified.

Methods
Patients (n=303) completed a number of self-report measures including the Pain Qualities Assessment Scale. Latent class analysis was used to identify subgroups of patients (i.e., latent classes) based on the occurrence rates for 14 pain qualities. Differences among the latent classes were evaluated using parametric and nonparametric statistics.

Results
Three latent classes were identified based on occurrence rates for pain qualities in the feet (i.e., High (26.1%), Moderate (50.2%), Low (23.8%)). Compared to the other two classes, patients in the High class had a worse comorbidity profile and a poorer functional status. In addition, these patients reported higher pain intensity and interference scores. Compared to the Low class, patients in the other two classes reported higher anxiety, depression, and sleep disturbance scores, as well as poorer quality of life outcomes.

Conclusions
Findings suggest that subgroups of patients with CIPN can be identified based on their reports of pain qualities.

PS089

ASSESSMENT OF INVISIBLE FINANCIAL BURDEN FACED BY FAMILIES WITH CANCER CHILDREN IN INDIA
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Introduction
The costs of cancer treatment are not only direct medical expenses but also non-medical expenses (food, transport, lodging, loss of pay etc.). Though the existence of financial strain is well known, it is not studied systemically in fact
under-researched and not reported well in medical literature especially in developing countries like India.

**Objectives**
To systemically review the financial burden including invisible expenses which include non-medical expenses incurred by the families of cancer children from a social perspective.

**Methods**
70 families with children undergoing treatment participated in the study. The parents were interviewed in a prepared questionnaire session. Study Period - Aug 2014-Aug 2015

**Results**
Of 70 patients with hematological malignancies 69% were boys and 31% girls.
63% of the patients were from rural areas
54% of the patients household annual income ranged between Rs.60,000-1,19,999.
Non-medical expenses accounts for about 46% of their monthly household income of parents from rural areas and 22% of their household income from urban areas.
Out-of-pocket expenses for accommodation followed by food and travel have emerged as a major contributing factor for severe economic effect on the family.
63% of patients used public transport like trains or buses for travel for treatments and follow up.
38% of families have borrowed money from money lenders with an average interest rate of about 12.5% which pushes them to a state of debt for the next few years.

**Conclusions**
By highlighting financial burden especially invisible expenses experienced by the families the issue can be taken into serious consideration during healthcare planning and policy making.

**PS090**

**PARENTS’ PREFERENCES FOR THE ORGANIZATION OF LONG-TERM FOLLOW-UP OF CHILDHOOD CANCER SURVIVORS**

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**Introduction**
Parents take an important role in follow-up care of young cancer survivors.

**Objectives**
We aimed to investigate 1) parents’ preferences for organization of follow-up, (including content, specialists involved and models of care) and 2) parents’ and child’s characteristics predicting preference for generalist versus specialist-led follow-up.

**Methods**
As part of the Swiss Childhood Cancer Survivor Study (SCCSS) we sent a follow-up questionnaire to parents of childhood cancer survivors aged 11-17 years. We assessed on a four-point Likert scale, parents’ preferences for organization of long-term follow-up (content, specialists involved, and models of care). Proposed models were: telephone/questionnaire, general practitioner (GP) (categorized as generalist for regression analysis); and pediatric oncologist, medical oncologist or multidisciplinary team (MDT) (categorized as specialists).

**Results**
Of 284 contacted parents 189 responded (67%). Parents valued if visits included check for cancer recurrence (mean=3.89, SD=0.39), late effects screening (mean=3.79, SD=0.45), and if patients were taken seriously (mean=3.86, SD=0.35) and competent staff (mean=3.85, SD=0.37). The preferred specialists were pediatric oncologists (mean=3.73, SD=0.68) and GPs (mean=3.28, SD=0.89). Parents valued the pediatric oncologist model of care (mean=3.49, SD=0.80) and the MDT model (mean=3.14, SD=0.06) highest. Parents of children not attending clinic based follow-up (OR 2.97, p=0.009) and parents of children already visiting a generalist (OR=4.23, p=0.007) were in favor of the generalist follow-up care.

**Conclusions**
We showed that parents value clinic-based follow-up care by pediatric oncologists or a multidisciplinary team. However, parents also valued the follow-up care model according to which their child is followed up.

**PS091**

**SCRAMBLER THERAPY IN MANAGING CANCER PAIN; WHAT IS THE EVIDENCE?**

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Introduction: Pain, from multiple sources, including chemotherapy-induced neuropathy, is a major problem in many patients with cancer. Scrambler therapy is an electrocutaneous treatment given to patients with chronic pain with the purpose of reorganizing maladaptive pain signaling pathways to result in pain relief.

Objectives: The objective of this project was to review the world literature with regards to use of Scrambler therapy for patients with chronic pain syndromes.
Methods: Talking to interested experts and searches of electronic database were used to find all published Scrambler therapy articles prior to November 2015. Results: The results of this evaluation revealed that there are 20 published reports, 18 of which are published in manuscript format. These reports involve over 900 individual patients. The authors of all of the published manuscripts and one of the abstracts concluded that Scrambler therapy appeared to be an efficacious means for treating chronic pain. The authors of a single abstract, which involved a total of 14 patients (7 of whom received Scrambler therapy and 7 who were treated with a placebo) did not report positive findings. Ongoing, randomized trials are accruing patients to better delineate the utility of Scrambler therapy for treating patients with chronic pain. Conclusions: On the whole, the data regarding Scrambler therapy appear quite promising. Ongoing randomized trials should better delineate the true value of Scrambler therapy.

**PS092**

**CHEMOTHERAPY NEUROPATHY, CONDITIONED PAIN MODULATION AND THE BENEFITS OF QUANTITATIVE SENSORY TESTING AND DULOXETINE**

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The Clinical Importance of Impaired Condition Pain Modulation in Mediating Chemotherapy Induced Neuropathy

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Condition and pain modulation (CPM) arises from the subnucleus reticularis dorsalis within the medulla and provides downward inhibition on nociception and pain. Placebo responses diminish CPM; there is a ceiling to CPM analgesia. CPM is influenced by psychological states such as catastrophizing However CPM is a reliable test for endogenous analgesia. CPM is gauged by the inhibition of a conditioning pain on a test pain (“pain inhibiting pain). CPM is diminished in multiple pain processing disorders such as fibromyalgia. Quantitative testing has been done to determine the mechanism to chronic pain. Temporal summation reflects windup which responds to gabapentinoids and ketamine. CPM reflects spinal cord norepinephrine and serotonin modulation of pain which is enhanced with SNRI antidepressants such as duloxetine. Duloxetine selectively improved pain in those with diabetic neuropathy who have impaired CPM. Certain opioids such as like morphine impair CPM which is probably the reason for poor opioid responses in patients with chemotherapy-induced neuropathy. Other have been multiple attempts to control chemotherapy-induced peripheral neuropathy. Gabapentinoids, alpha-lipoic acid, calcium and magnesium, vitamin C, L-carnitine and glutathione have failed to improve chemotherapy-induced neuropathy. Venlafaxine has produced mixed responses with oxaliplatin acute neuropathy. Nortriptyline in a crossover trial had “potentially modest benefits at best”. Topical ketamine and amitriptyline are ineffective and topical baclofen amitriptyline plus ketamine have marginal benefits. Duloxetine in a randomized controlled trial (NCT 00489411) significantly reduced pain relative to placebo with an odds ratio of 4 for a greater than 30% reduction in pain severity. A second trial (UMI 00001554) compared duloxetine to vitamin B-12. Duloxetine significantly improved pain with a hazard ratio for “non-attainment” of 50% reduction in pain of 0.25. In summary, duloxetine is drug of choice for treatment of chemotherapy-induced neuropathy. Future trials should use quantitative sensory testing and enrichment enrollment designed trials in order to test analgesics in the management of chemotherapy-induced neuropathy.

**PHASE III RANDOMIZED DOUBLE-BLIND CONTROLLED TRIAL OF ORAL RISPERIDONE, HALOPERIDOL OR PLACEBO WITH RESCUE SUBCUTANEOUS MIDAZOLAM FOR DELIRIUM MANAGEMENT IN PALLIATIVE CARE**

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**Introduction**

Delirium is a significant medical complication in advanced illness. Guidelines recommend targeted use of antipsychotics for specific delirium symptoms however this approach has not been evaluated in randomized trials.

**Objectives**
To compare the efficacy of risperidone relative to placebo in the control of specific delirium symptoms in palliative care patients (communication, behaviour and/or perceptual disturbances on Nursing Delirium Screening Scale) at 72 hours. Secondary aims were to compare haloperidol and placebo; and risperidone and haloperidol.

Methods
Inpatient participants had life-limiting illness, delirium, and target delirium symptoms. Randomisation was 1:1:1 to dose-titrated oral risperidone, haloperidol or placebo solution every twelve hours (based on age). Subcutaneous midazolam rescue was available for severe distress or safety, and delirium precipitants could be managed as clinically indicated. The primary outcome was improvement of delirium symptoms between baseline and day three analysed by intention to treat.

Results
The trial recruited to its fully powered sample (n=247) - 82 risperidone; 81 haloperidol; and 84 placebo between August 13, 2008 and April 2, 2014. Those in both the risperidone and haloperidol arms had significantly greater delirium symptoms on average at study end than the placebo arm; 0.48 (95% CI 0.09, 0.86; p=0.016) and 0.24 (95% CI 0.06, 0.42; p=0.009) respectively.

Conclusions
This adequately powered randomized controlled trial has shown individualized management of delirium precipitants and non-pharmacological strategies results in better control of delirium symptoms than the same care package with the addition of risperidone or haloperidol. These results fundamentally challenge the current pharmacological management of delirium in this population.

PS094

DEXAMETHASONE FOR DYSPNEA IN CANCER PATIENTS: A DOUBLE-BLIND, RANDOMIZED CONTROLLED TRIAL
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Introduction
Dexamethasone is often used to treat dyspnea in cancer patients but evidence is lacking.

Objectives
We determined the feasibility of conducting a randomized trial of dexamethasone in cancer patients, and estimated the within-arm efficacy of dexamethasone in the treatment of dyspnea.

Methods
In this double-blind, randomized controlled trial, patients with dyspnea ≥4 were randomized to receive either dexamethasone 8 mg twice daily x4 days then 4 mg twice daily x3 days or placebo for 7 days, followed by an open label phase for 7 days. We documented the changes in dyspnea (0-10 numeric rating scale, NRS), spirometry measures, quality of life and toxicities.

Results
41 patients were randomized and 35 (85%) completed the blinded phase. Dexamethasone was associated with a significant reduction in dyspnea NRS of -1.9 (95% CI -3.3 to -0.5, P=0.01) by day 4 and -1.8 (95% CI -3.2 to -0.3, P=0.02) by day 7. In contrast, placebo was associated with a reduction of -0.7 (95% CI -2.1 to 0.6, P=0.38) by day 4 and -1.3 (95% CI -2.4 to -0.2, P=0.03) by day 7. The between-arm difference was not statistically significant, although this study was not powered for such comparison. Drowsiness improved with dexamethasone. Dexamethasone was well tolerated with no significant toxicities.

Conclusions
A double-blind randomized controlled trial of dexamethasone was feasible with a low attrition rate. Our preliminary data suggest that dexamethasone may be associated with rapid improvement in dyspnea and was well tolerated. Further studies are needed to confirm our findings.

PS095

VIEW FROM THE BOTH SIDES OF THE ROOM
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Thirty two years of work experience in oral oncology (the bulk of this time in oral oncology patient care and research in hematopoietic cell transplantation), twenty three years as a member of ISOO, and 9 years of MASC2 oral mucositis study group membership had given me tremendous experience in oncology supportive care. And I thought I understood quite a bit about supportive patient care, evidence-based guidelines, and multidisciplinary care groups. But in 2007 I was yanked over to the other side of the room when I was diagnosed with cancer – a plasmacytoma. Three years of several rounds of radiation therapy for “spot welding”, progression to multiple myeloma with four years of treatment with chemotherapy (including dreaded steroids), more radiation, and bisphosphonates, and then an autologous peripheral blood stem cell transplant in 2014. Now I have navigated an additional 2 years of post-transplant maintenance chemotherapy. I am hopeful, but the future is uncertain...how uncertain depends on how much I want to believe medical statistics.....!

The objective of this presentation will be to explore the influence of experiencing a diagnosis of cancer along with 9 years of cancer therapy on how I now approach supportive oral oncology care. Balancing patient care that promotes evidence-based and extensive technical clinical experience in oral supportive care therapy with personal and emotional perspectives of having been on the receiving side of cancer...
care has been both challenging and rewarding. There has been a lot of introspective. I think I am a better overall care provider...and maybe a better patient, too.

But what exactly do I do differently? I basically believe that now I see myself not only treating the “patient’s oral problems” but am treating patients more holistically. I believe that I have expanded my vision and now see more – not only oral problems and issues but I see more clearly the patient and recognize where I can potentially provide support beyond oral care: acknowledging patient distress, anxiety, and uncertainty and I now readily look to provide advice and direction -- talk about other than oral problems, issues, and concerns, provide insight as to how the system works, and, where I can, provide encouragement. All of this supports and expands the concept of multidisciplinary team care. I have become more sensitive to the emotional and psychological issues for patients and am not hesitant to address them. Hopeful that this care allows patients to endure and navigate, hopefully, the road to cancer cure.

I am not a social worker, psychologist, or psychiatrist. The issues and points to address that follow have been researched and analyzed by others. I will not be presenting the results of these studies. Rather I will be trying present the discussion of cancer care from a patient’s perspective who is also a caregiver – the anxieties, frustrations, emotions, perceptions, and concerns:

a) Diagnoses – it is more than just giving a name to a disease
b) Discussing Treatments – personalizing the science with balance and sensitivity
c) Prognosis and Outcomes – how do you personalize statistics?
d) Side effects – MASCC is on top of this. Nothing beats the best guidelines
e) The aggravations and frustrations
   - Appointment schedules, tests, and procedures
   - The treatments
   - Timeliness of clinicians
   - INSURANCE COMPANY AGGRAVATIONS
   - But most critically...What is going to happen to me – weeks, months, and years into the future?
f) Provider Projection and Behavior
   - The smile and reassurance
   - Acting with true concern and sincerity
   - I am listening and I do hear what you are saying
   - Discuss concerns effectively with real compassion and if I can’t make it right can I help find someone who can – Know the system well enough that you know what can be done
   - Truly seek out how your patient is truly doing – not just cancer treatment wise but with all of their whole life!

In conclusions: Being a compassionate care provider is hard. It takes a lot of energy. Patients are complex and complicated and their needs are different and how they need to be managed can be very different.

But I also have learned that as the patient, I have huge responsibilities, too. I have to be my own advocate. I need to speak up – ask questions, voice concerns, and don’t be shy. I learned for me, I need to be direct and timely. I need to be the good communicator and address my needs. It also helps significantly to have a system that “demands” patients have family/friends to be supportive caregivers like we do at the SCCA. Things I always encourage and support my patients in doing and I hope this all allows patients to endure their disease and its treatment more easily and with hope.

PS096

R-CHOP NOT SO EASY ON THE RECEIVING SIDE

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May years of treating patients in the Royal Melbourne Hospital Bone Marrow Transplant unit and in my rooms has given me a good understanding of the stages and complications of the various treatments for different conditions, ranging from allogenic match unrelated bone marrow transplants to “simple” chemotherapy.

Being diagnosed with lymphoma has set me on a journey that has had many effects on my professional life and my patient management and understanding.

It was very interesting being on the “other side” chemotherapy was not pleasant but gave me a better understanding of the trials and tribulations of my patients, I found my patients had a greater empathy and concern with and for me.

PS097

FEASIBILITY, ACCEPTABILITY AND IMPACT OF A PRO-ACTIVE TELEPHONE-BASED INTERVENTION TO IMPROVE TOXICITY MANAGEMENT DURING CHEMOTHERAPY FOR EARLY STAGE BREAST CANCER


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Introduction
Effective remote symptom management support is essential to optimize self-management and resource use during chemotherapy.

Objectives
To examine the feasibility, acceptability and impact of a pro-active telephone intervention on symptomatic toxicity and resource use during chemotherapy for early stage breast cancer (EBC).

Methods
A prospective study of telephone-based toxicity management in women receiving neo-adjuvant or adjuvant chemotherapy for EBC was undertaken at one urban and one rural site in Ontario, Canada. The intervention consisted of 2 standardized nurse-led calls focusing on common toxicities after each chemotherapy cycle. Primary outcome measures were feasibility and acceptability based on patient (pt) and clinician feedback. Efficacy was evaluated by self-reported emergency department visits and hospitalizations (ED+H).

Results
Between 09/2013 and 12/2014, 77 women with EBC were enrolled. Commonly used regimens were AC-paclitaxel (58%) and FEC-doxetaxel (16%); 78% of pts received primary GCSF prophylaxis. Call adherence was 84%. Mean call duration was 9 minutes. The intervention was well received by both pts and clinicians; 97% of pts indicated they liked receiving the calls and 94% would recommend this protocol be offered to all chemo pts. Clinicians and pts felt the calls reduced pt anxiety by providing just-in-time education and counseling. 22 pts (29%) reported at least one ED+H during chemotherapy, lower than the historical rate of 44% for this population in Ontario.

Conclusions
Pro-active telephone toxicity management during chemotherapy is feasible, perceived as valuable by clinicians and pts, and may be associated with lower rates of acute care use. Larger scale evaluations focusing on effectiveness are warranted.

PS098
PATIENT REPORTED OUTCOME MEASUREMENT: SYSTEMATIC SYMPTOM ASSESSMENT IN CANCER CARE - ONTARIO HEALTHCARE PROFESSIONALS’ ATTITUDES, THE EDMONTON SYMPTOM ASSESSMENT SYSTEM (ESAS) AND THE ROAD AHEAD
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Introduction
Patient-reported outcome measurement (PROM) provides insights into patients’ perceptions of symptom burden along the illness trajectory, and is intended to stimulate discussion and to improve patient satisfaction.

Objectives
To investigate the attitudes of healthcare providers toward systematic, standardized symptom assessment and the use of PROM tools such as the Edmonton Symptom Assessment System (ESAS) in its revised form, particularly:
• Self-reported ESAS use by different clinician groups;
• Barriers and facilitators to utilization; and
• Ways to enhance the collection and management of PROMs.

Methods
Self-administered, electronic survey toward clinicians in all of Ontario’s 14 Regional Cancer Centres (Canada).

Results
960 eligible surveys were analyzed (response rate 36%), the majority from nurses (37%), physicians (27%), and radiation therapists (25%). Standardized symptom assessment was deemed “best practice” by 76% of respondents – but only 60% ‘always’ or ‘often’ looked at their patients’ ESAS scores, and 52% incorporated it into the care plan. Technology-related barriers (such as easy access to ESAS scores) were cited most, followed by time-related ones (e.g., adding time to busy clinics). Of further concern was that the ESAS might not be specific to cancer type.

Conclusions
Although PROM tools were generally recognized as “best practice”, a gap between self-reported utilization and inclusion into the actual care plan existed. To enhance utility for patients and providers, the ESAS might be supplemented with further, short tools addressing disease-specific symptoms and individual needs in a person-centred approach to care.

Funding: Support provided by the Ontario Cancer Symptom Management Collaborative, a Cancer Care Ontario program.
THE PHARMACOGENOMICS OF CHEMOTHERAPY-INDUCED TOXICITIES: AN UMBRELLA REVIEW OF SYSTEMATIC REVIEWS AND META-ANALYSES

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Introduction
Germline genetic variations have been found to be associated with chemotherapy toxicity. However, false positive findings are a problem in pharmacogenomics studies, making replication vitally important.

Objectives
To synthesise the results of all systematic reviews that investigate the pharmacogenomics of chemotherapy toxicity.

Methods
Pubmed, Embase, Joanna Briggs Institute (JBI) Database of Systematic Reviews and Implementation Reports, Database of Abstracts of Reviews of Effects (DARE), and ProQuest were searched up to July 2014. Included studies were appraised and data extracted using standardized JBI instruments.

Results
Fourteen systematic reviews were included. Investigated drugs/drug types were: Irinotecan, Methotrexate, Fluoropyrimidine (FU), and Platinum. Appraisal found that risk of bias of included primary studies was rarely evaluated, and strategies to minimise data extraction errors were often not used. UGT1A1*6 and *28 were demonstrated to be risk factors for irinotecan-induced neutropenia, with tests for both polymorphisms potentially being particularly useful in Asian patients. UGT1A1*6 and *28 were also related to diarrhoea toxicity. Findings for methotrexate varied depending on the patient subgroup and genetic model. Associations were found between the MTHFR C677T allele and hepatic toxicity, myelosuppression, oral mucositis, gastrointestinal toxicity, and skin toxicity. Limited evidence suggested that MTHFR A1298C may be associated with decreased risk of skin toxicity and leukopenia. FU-induced toxicity was associated with polymorphisms of DPYD and TYMS, but not MTHFR. For platinum, GSTP1 was found to not be associated with toxicity.

Conclusions
This Umbrella review synthesised the best available evidence on the pharmacogenomics of chemotherapy toxicity and identified important research gaps.

5-FLUOROURACIL IN INDEPENDENT COHORTS

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Introduction
Chemotherapy-induced gastrointestinal toxicity (CIGT) following 5-fluorouracil based (5-FU) treatment is prevalent and often compromises therapy outcomes. Our pilot study (n=34) reported severe CIGT risk was associated with TLR2 and TNF genetic variability and cancer type (colorectal and gastric) with a receiver operator characteristic (ROC) area under the curve (AUC) of 87.3%.

Objectives
To validate our pilot study observations in an independent patient cohort.

Methods
Sixty-five patients (49 female) who had received 5-FU treatment participated. CGIT data (toxicity: symptoms of Grade ≥ 3 NCI's CTCAE v4, or requiring treatment cessation or reduction), demographics, and treatment parameters were collected from clinical records. Genetic variability in the following genes was determined using a customised Sequenom MassArray: IL1B, IL2, IL6, IL6R, IL10, TNF, TGFβ, TLR2, TLR4, M2L2, MYD88, BDNF, CRP, CES1 and OPN1. Multivariate logistic regression created a prediction model of severe CIGT risk and ROC curves assessed the model performance.

Results
Thirteen (20%) patients experienced severe CIGT. Cancer type (colorectal and gastric) and genetic variants in IL1B (rs16944 and rs1143634) were significantly associated with risk (P=3.4x10^{-5}), with a ROC AUC of 91.9%.

Conclusions
Compared to the pilot study, this study identified genetic loci in IL1B as being associated with severe CIGT risk and not TLR2 or TNF. This may be explained by a shift in the cancer types between the pilot and current study: breast 39 and 63%, colorectal 52 and 32%, and rectal 9 and 5%, respectively. Expansion of the study cohort to 150 is underway to confirm these observations.

GUIDELINE UPDATE ON THE ORAL COMPLICATIONS IN CANCER THERAPY A BIT ABOUT SPIT: WHAT WE KNOW ABOUT RADIATION AND XEROSTOMIA, IMRT AND PAROTID SPARING

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Dental disease left untreated:
- Vancouver=1 (1.8%), Sweden=3 (25%), Charlotte=6 (35%);
- Sweden=2 (16.7%), Charlotte=6 (35%);
- dental restorations Sweden=1 (8.3%);
- Scaling (11.7%);
- Root canal treatment Vancouver=4 (7.4%), Sweden=1 (8.3%).

Dental treatment completed before HSCT: teeth extracted was Vancouver=23.2; Sweden=26.4 and Charlotte=25.2.

The mean number of teeth per patient patients were: Vancouver=52.3 years; Sweden=52.8 years; Charlotte=46.5 years. The mean age for included patients were: Vancouver=52.3 years; Sweden=52.8 years; Charlotte=46.5 years. The mean number of teeth per patient was Vancouver=23.2; Sweden=26.4 and Charlotte=25.2.

Dental treatment completed before HSCT: teeth extracted was Vancouver=23.2; Sweden=26.4 and Charlotte=25.2.

Overall, 83 patients were evaluated: Vancouver=54; Sweden=12; Charlotte=17. The mean age for included patients were: Vancouver=52.3 years; Sweden=52.8 years; Charlotte=46.5 years. The mean number of teeth per patient was Vancouver=23.2; Sweden=26.4 and Charlotte=25.2.

Dental treatment completed before HSCT: teeth extracted Vancouver=4 (7.4%), Sweden=1 (8.3%). Charlotte=2 (11.7%); Root canal treatment- Vancouver=0, Sweden=1 (8.3%); Scaling- Vancouver=9 (16.7%), Sweden=2 (16.7%), Charlotte=6 (35%); dental restorations- Vancouver=1 (1.8%), Sweden=3 (25%), Charlotte=6 (35%).

Dental disease left untreated: patients with probing depths >5 mm- Vancouver=3 (5.6%), Sweden=1 (8.3%).

Charlotte=3 (17.6%); patients with caries untreated- Vancouver=4 (7.4%) and Sweden=4 (33%) and Charlotte=10 (58.5%); periapical lesions left untreated- Vancouver=2 (3.7%), Sweden=1 (8.3%), and Charlotte=1 (5.9%).

Conclusions
The present study is a preliminary assessment of dental disease and dental treatment prior to HSCT. There is a higher frequency of dental disease and dental treatment completed at some sites. ORASTEM patients are followed prospectively to provide associations between dental disease and oral complication during HSCT.

**PS102**

**DENTAL DISEASE AND DENTAL TREATMENT PRIOR TO HEMATOPOIETIC STEM CELL TRANSPLANTATION (HSCT): ORASTEM STUDY**

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**Introduction**
The level of dental disease and the standard of care for dental treatment before hematopoietic Stem Cell Transplantation (HSCT) may vary across different centers.

**Objectives**
In this international multicenter study, we assessed differences in dental disease and dental treatment prior to HSCT between four centers.

**Methods**
Patients were seen for dental evaluation prior to HSCT at six regional radiotherapy centres. Our unique database have helped us improve our understanding of radiation induced xerostomia. We will present selected subjective quality of life assessments pre- and post-H&N-radiotherapy. In 2012 and 2013 we collected objective salivary measurements from patients treated at the six radiotherapy centres. Since 2007, the Department of Oral Oncology at the BC Cancer Agency have been collecting objective salivary measurements pre- and post-H&N-radiotherapy. In 2012 and 2013 we collected objective salivary measurements from patients treated at the six radiotherapy centres.

**Results**
- Overall, 83 patients were evaluated: Vancouver=54; Sweden=12; Charlotte=17. The mean age for included patients were: Vancouver=52.3 years; Sweden=52.8 years; Charlotte=46.5 years. The mean number of teeth per patient was Vancouver=23.2; Sweden=26.4 and Charlotte=25.2.
- Dental treatment completed before HSCT: teeth extracted Vancouver=4 (7.4%), Sweden=1 (8.3%). Charlotte=2 (11.7%); Root canal treatment- Vancouver=0, Sweden=1 (8.3%); Scaling- Vancouver=9 (16.7%), Sweden=2 (16.7%), Charlotte=6 (35%); dental restorations- Vancouver=1 (1.8%), Sweden=3 (25%), Charlotte=6 (35%).
- Dental disease left untreated: patients with probing depths >5 mm- Vancouver=3 (5.6%), Sweden=1 (8.3%).

**PS103**

**MOLECULAR CHARACTERISTICS OF CONSECUTIVE ORAL MUCOSA BIOPSIES FOLLOWING HIGH DOSE MELPHALAN TREATMENT OF MULTIPLE MYELOMA PATIENTS**

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**Introduction**
High-dose melphalan induced toxicity on the oral and gastro-intestinal mucosa is a clinical challenge. Pathogenesis is unknown, and biomarkers for mucositis severity are lacking.

**Objectives**
The aim of the study was to describe the molecular changes in consecutive human mucosal biopsies and to identify biomarkers correlated to the grade of clinical mucositis during high-dose melphalan treatment with autologous stem cell transplantation (HSCT).

**Methods**
Ten patients with multiple myeloma (MM) receiving HSCT were included. We applied global gene analysis on three consecutive buccal biopsies before, 2 days and 20 days following high-dose melphalan. Buccal biopsies from ten healthy individuals served as controls. Patient’s clinical characteristics including mucositis assessment were registered and correlated to gene expression.

**Results**
Two days after melphalan we found an upregulation of apoptosis-related genes of the p53 pathway (MDM2, EDA2R, and E2F7) in favour of defence against apoptosis. This feature was independent of the level of clinical
mucositis. MM patients with ulcerative mucositis expressed HLA-DRB1 and HLA-DRB5 at the same low level as healthy controls, whereas patients with low-grade mucositis showed a 3-fold increase in HLA-DRB1 and HLA-DRB5 expression in all three biopsies. This was confirmed by immunohistochemistry.

Conclusions

Molecular analysis of consecutive buccal mucosal biopsies from ten HSCT melphalan treated multiple myeloma patients revealed that the p53 pathway (MDM2, EDA2R, and E2F7) genes in defence of apoptosis were affected immediately and independently of clinical mucositis severity. Furthermore, we identified HLA-DRB1 and HLA-DRB5 as potential predictive biomarkers for mucositis severity. Future prospective studies including more patients are planned.

PS104

TEACHING COMMUNICATION SKILLS REGARDING PROGNOSIS TO AUSTRALIAN ONCOLOGY TRAINEES

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Effective communication is vital for patient centred care in medical oncology. Since 2003, Australian Medical Oncology curriculum standards have required familiarity with and proficiency in various aspects of clinical communication, including breaking bad news, discussing prognosis and treatment options, and discussing end of life care and transition to palliation. The Pam McLean Centre at the University of Sydney has provided workshop training in these areas, funded by the national professional society, the Medical Oncology Group of Australia (MOGA). Attendance at a workshop is a compulsory training element, and the topics rotate over a 3 year period. New Zealand trainees have also been included in recent years. Scenarios for discussing prognosis are developed with clinical input, and actors are trained in character background, emotional responses and improvisation techniques. Both early disease, where a risk of recurrence might be impacted by adjuvant chemotherapy, and metastatic disease, where treatment might improve median survival, are covered. Evidence from the research literature is incorporated in the presentation. A high level of interactivity and learner-centredness in small group sessions is achieved by the use of experienced facilitators. Workshops have been highly evaluated by attendees and the opportunity to discuss these difficult conversations with an actor in a realistic patient role has been valued. Difficulties encountered have included availability of funding and travel to reach all trainees (approx. 120 in ANZ). Supervisor and MOGA support has been vital to the success of the program.

PS105

AN INVESTIGATION OF THE CONCORDANCE BETWEEN PATIENTS AND THEIR NON-PROFESSIONAL CARERS ABOUT FACTORS ASSOCIATED WITH A “GOOD DEATH” AND OTHER IMPORTANT END-OF-LIFE DECISIONS

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Introduction

A “good death” is a primary outcome for end-of-life care, but the concept is very individual.

Objectives

The aim of this study was to investigate concordance between patients and non-professional carers about factors associated with a “good death” and other end-of-life decisions.

Methods

Patients completed a questionnaire about end-of-life care issues, and were asked to rank the importance of factors previously linked to a “good death”. Carers also completed a questionnaire about end-of-life care issues relating to the patient, and whether or not they agreed with those choices (i.e. medical treatments, PPD). Carers were also asked to rank the importance of factors previously linked to a “good death” to the patient, and to themselves.

Results

Only 69% patients stated they had discussed their preferences for end-of-life care with their respective carer. The rankings were similar for the patient and the carer’s views of what was important for the patient, although the patients ranked “to be involved in decisions about my care” as less important, whilst the carers ranked “to have sorted out my personal affairs” as less important. Equally, the rankings were similar for the patient and the carer’s views of what was important for themselves, although the carers ranked “to be able to die at home” as less important.

Conclusions

When discussions around end-of-life choices do occur, carers generally appear to agree with the patients’ preferences around end-of-life treatment, and preferred place of death.

PS106

LUNG

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The standard of care for patients with locally advanced (stage IIIA-B) non-small cell lung cancer (NSCLC) is concomitant chemoradiation, using a dose of 60 Gy in six weeks combined with a cisplatin or carboplatin-based doublet chemotherapy. Toxicities associated with this treatment may be early or late, and the type of toxicity will depend on the organs within the irradiated volume. For some organs, whose functional subunits are arranged “in series”
such as spinal cord, the risk and grade of toxicity will be related to the total dose. For others, whose functional subunits are arranged “in parallel”, such as lung, the risk is related to both the volume and dose. Early toxicities developing during treatment include systemic symptoms of fatigue and anorexia, and mucosal injury including skin erythema and desquamation, and oesophagitis. Delayed toxicities appearing after the completion of treatment include radiation pneumonitis evolving to radiation fibrosis; neurologic toxicity including L’Hermitte’s, spinal cord and brachial plexus injury and an intercostal neuropathy; cardiac injury; and vertebral fractures. The contribution of chemotherapy to these toxicities is variable, however the severity of oesophagitis is enhanced by concomitant chemotherapy, and this may be related to the development of neutropenia. The contribution of chemotherapy to pneumonitis risk is less clear, but pre-existing interstitial lung disease and age may be risk factors. The results of a recent trial (RTOG 0617) suggest that failure of a higher radiotherapy dose (74 Gy) to improve survival may be in part related to increased toxicity, particularly cardiac.

Management of the symptoms of chemoradiation induced toxicity remains unsatisfactory, and prevention remains the most important strategy. This will include observance of dose-volume constraints in organs at risk. Attempts to reduce dose to normal tissues with technical approaches such as gating and intensity modulated radiotherapy have not yet consistently translated into a better quality of life.

The long term physical legacies of treatment are lighter than those reported in men treated in the last century and SF36 scores compare favourably with an age matched normative population. However, previously unreported mental consequences are more common than expected. Four main findings based on 146 PC 10-year survivors responses are presented: 1- Feelings of loss of masculinity prevail in 50% of men; 2- Depression scores were significantly higher in the 10-year sample compared to another sample of 171 PCA patients within 2 years after diagnosis; 3- Psychological Resilience moderated the depressive effects of urinary and bowel incontinence; and 4- The development of a new scale to provide a Functional Analysis of Disease Effects (FADE) will be described and psychometric data reported. Refinements to this scale will be described.

CONCLUSIONS

These preliminary data confirm that physical and mental legacies of treatment remain a decade later and will contribute to a wider understanding of how best to assist these men to maximise their physical and mental health.

PS107

PROSTATE CANCER

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Prostate cancer survivors – can they enjoy life as men 10 years after treatment? Depression, loss of masculinity, survivorship: data from the trog 03.04 radar trial

OBJECTIVES

Long term survivorship is poorly described in men treated for prostate cancer (PC). The “Life 10 Years after Prostate Cancer Treatment” substudy of the RADAR trial aims to address this shortcoming.

METHODS

Living subjects on the RADAR trial and their partners completed survivorship questionnaire booklets 10 years after their randomisation on the RADAR trial. Data included several PC-focused questionnaires, plus anxiety, depression, psychological resilience, dyadic adjustment and a new scale on overall effects of PC on mental and physical health.

RESULTS

The median age of the patients was 57 years and 49.0% were female. 83.0% and 17.0% patients were ambulatory and hospitalized, respectively. The median number of drugs used was 5 (range 0-12). In 257 patients (45.0%) at least one drug interaction was identified. 90.0% of the drug interactions were severe and moderate interactions (87.0% moderate, 3.5% severe). Drug interactions were assessed in groups and the least interaction was found between anti-neoplastic drugs and the drugs to treat comorbidities. In multivariable analysis, male gender, presence of comorbidity and hospitalization were increased risk factors for potential drug interactions (p<0.01).

PS108

THE PREVALENCE AND SEVERITY OF DRUG INTERACTIONS IN HOSPITALIZED AND AMBULATORY CANCER PATIENTS

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Introduction

Cancer patients are prescribed multiple medications that increase the risk of potential drug interactions in this population. Drug interactions may increase the intensity of side effects or decrease antitumoral activity.

Objectives

The aim of our study is to determine frequency and severity of potential drug interactions in ambulatory and hospitalized cancer patients.

Methods

For this purpose, 571 patients followed up during a 2-month period of June to July 2012 were included in the study. Patient’s data including demographics and medications prescribed for cancer, supportive care and comorbid illness were recorded using a questionnaire designed for the study. An internet based “interaction checker” program, www.mims.com, was used to identify drug interactions and to classify them according to their severity.

Results

The median age of the patients was 57 years and 49.0% were female. 83.0% and 17.0% patients were ambulatory and hospitalized, respectively. The median number of drugs used was 5 (range 0-12). In 257 patients (45.0%) at least one drug interaction was identified. 90.0% of the drug interactions were severe and moderate interactions (87.0% moderate, 3.5% severe). Drug interactions were assessed in groups and the least interaction was found between anti-neoplastic drugs and the drugs to treat comorbidities. In multivariable analysis, male gender, presence of comorbidity and hospitalization were increased risk factors for potential drug interactions (p<0.01).
PS109

IDENTIFICATION OF BIOMARKERS OF CHEMORADIOThERAPY-INDUCED TOXICITY IN UPPER GASTROINTESTINAL CANCERS
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Introduction
Gastrointestinal (GI) toxicity is a common and costly side effect of chemoradiation and is frequently dose-limiting for treatment of upper GI cancers. Interpatient variability in severity of symptoms indicates that toxicity risk markers exist and could be utilised to personalise treatment.

Objectives
This study aimed to identify immune response genes as markers predictive of severe chemoradiation-induced GI toxicity in patients with oesophageal adenocarcinoma.

Methods
Study participants were recruited from South Australia’s 2 major hospitals. RNA was extracted from whole blood collected prior to therapy and 84 innate and adaptive immune response genes were profiled using PCR array. GI toxicity was documented during the first cycle of chemoradiation and graded according to the AJCC Cancer Staging Manual 7th edition.

Results
Males diagnosed with oesophageal adenocarcinoma (N=19) and gastro/oesophageal junctional adenocarcinoma (N=10) were recruited between November 2009 and November 2014. All participants were treated with chemoradiation. Most common GI toxicities reported were oral mucositis (42.3%), nausea and vomiting (76.9%), diarrhoea (19.2%). PCR array indicated significant up regulation of TNF (1.45-fold, p=0.035) and TLR6 (1.87-fold, p=0.038) in patients with GI toxicity grade ≥3 (n=6) compared to grade ≤1 (n=10).

Conclusions
Initial results indicate that baseline expression of key mediators of inflammatory tissue damage are measurably different in peripheral blood of patients with an elevated risk of developing severe GI toxicity. Analysis is ongoing and variances in gene expression will highlight genes useful in GI toxicity prediction.

PS110

HIGH SENSITIVE CARDIAC TROPONIN T ASSAY CAN RELIABLY PREDICT EARLY ANTHRACYCLINE AND TRASTUZUMAB CARDIOTOXICITY IN BREAST CANCER PATIENTS
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Introduction
Early predictor of anthracycline and trastuzumab cardiotoxicity has not been established yet. Although conventional troponin T could not predict it, high sensitive cardiac troponin T (hs-cTnT) assay is expected to detect preclinical myocardial damage.

Objectives
To evaluate whether hs-cTnT assay can predict cardiotoxicity from the agent(s).

Methods
We enrolled breast cancer patients treated with the agent(s) in Tonan Hospital prospectively. All patients underwent echocardiography and blood sampling at baseline, every three months of chemotherapy, and six months after the end of trastuzumab treatment. Cardiotoxicity was defined as a decline in left ventricular ejection fraction of more than 10%.

Results
Of 40 patients, 33 (83%) patients were treated with anthracycline (epirubicin), 18 (45%) were with trastuzumab, and 12 (30%) were with both agents. Cardiotoxicity was observed in four (10%) patients, who were treated with both agents. The highest point of hs-cTnT was significantly greater in patients with cardiotoxicity (0.044 vs. 0.013 ng/mL, P= 0.033), which was observed before or at the time of diagnosis of cardiotoxicity. “hs-cTnT increment from the baseline to the top point” and “integration value of hs-cTnT increment from the baseline” were also significantly greater in patients with cardiotoxicity (0.039 vs. 0.008 ng/mL, P=0.023, 0.113 vs. 0.023 ng/mL×months, P=0.0001, respectively). Integration value of hs-cTnT increment from the baseline had 100% sensitivity and specificity with cutoff level at 0.095ng/mL×months.

Conclusions
hs-cTnT assay can detect preclinical myocardial damage from anthracycline and trastuzumab. The increment from the baseline and its integration value were more reliable than the absolute value of hs-cTnT.

PS111
TOLL-LIKE RECEPTOR 4 (TLR4)-MEDIATED TIGHT JUNCTION DISRUPTION AND DYSREGULATED ION SECRETION ARE KEY DRIVERS OF IRINOTECAN-INDUCED DIARRHOEA

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Introduction
Irinotecan-induced diarrhoea is proposed to be associated with altered intestinal secretion secondary to loss of tight junction integrity (TJ) and increased barrier permeability. We have previously shown TLR4 deletion reduces the severity and duration of chemotherapy-induced gut toxicity and hypothesise the protective effects of TLR4 deletion may be mediated via this pathway.

Objectives
To compare intestinal TJ integrity and chloride secretion in wild-type and Tlr4−/− mice treated with irinotecan.

Methods
Wild-type and Tlr4−/− mice (n=84) received a single 270mg/kg (i.p.) dose of irinotecan or vehicle and were killed at 6, 24, 48, 72 and 96h. TJ integrity was assessed at 24h, where peak barrier disruption was detected using orally-administered FITC-dextran. Expression and localisation of occludin, claudin-1 and zonular occludens (ZO)-1, three key TJ proteins, were assessed using immunofluorescence and RT-PCR. Short-circuit current (Isc) at baseline and following application of carbachol and forskolin (Alsc) was assessed to determine colonic chloride section.

Results
TLR4 deletion attenuated irinotecan-induced gut toxicity, with clear improvements in weight loss and diarrhoea (p<0.0001). TJ abnormalities, typified as cytoplasmic translocation of claudin-1, were seen in wild-type animals treated with irinotecan at 24h. In addition, ZO-1 mRNA expression was decreased significantly from controls in wild-type mice (-1.56 fold; p=0.006). Elevated baseline Isc (p=0.013) and carbachol-induced Alsc (p=0.022) were also seen in wild-type mice at 24h. No changes in any of these parameters were seen in Tlr4−/− mice.

Conclusions
Increased intestinal permeability and elevated anion secretion contribute to irinotecan-induced diarrhoea in a TLR4-dependent manner.

PS113
DIFFERENTIATION OF GASTROINTESTINAL TOXICITY ASSOCIATED WITH DIFFERENT NANOFORMULATIONs IN A MALE SPRAGUE DAWLEY RAT 5-FLUOROURACIL-INDUCED MUCOSITIS MODEL

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School of Pharmacy and Medical Sciences, Adelaide, Australia

Introduction
5-Fluorouracil (5FU)–induced mucositis is problematic. New formulations of 5FU, including neutral liposomes (NL), cationic liposomes (CL), and polyethyleneimine copper (PEI-Cu) complexes offer increased cytotoxicity and may reduce gastrointestinal toxicity through improving goblet cell and enteric nerve integrity.
**Objectives**
To determine whether formulations of 5FU reduced damage to goblet cells and enteric nerves.

**Methods**
Sprague Dawley (SD) rats were randomly assigned to groups: saline (n=6), 5FU (n=6), 5FU-PEI-Cu (n=6), NL-5FU (n=5), NL-PEI-Cu-5FU (n=5), and CL-PEI-Cu-5FU (n=5). 5FU and formulations (equivalent to 10mg/kg 5FU) were administered in saline once daily for five days intravenously via the tail vein. Rats were killed two days after the final dose of 5FU. Haematoxylin and eosin (H&E) staining, Alcian Blue-PAS staining, and immunohistochemistry with S-100 antibody (neural cell marker) were carried out. Statistical analyses were carried out using Kruskal-Wallis test with Dunns post-test and Mann Whitney U test. Effect size was determined using Cohen’s D test.

**Results**
Inflammatory infiltrate increased in the PEI-Cu-5FU rats compared to 5FU rats in the jejunum (p=0.001). S100 positive nerve bundles in NL-5FU rats increased compared with saline rats (p<0.05) in the jejunum. S100 positive cells in the jejunum increased in CL-PEI-Cu-5FU rats compared to saline rats.

**Conclusions**
PEI-Cu-5FU formulation was associated with increased inflammatory infiltrate in the jejunum, potentially increasing the damage. However, liposomal formulations were associated with increased neural cells, which may be protective and should be explored further. Whilst these formulations have been shown to increase the cytotoxic effects of 5FU, use would need to be monitored closely for gastrointestinal toxicities.

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**PS114**

**A PROSPECTIVE STUDY VALIDATING THE EORTC QLQ-BM22 BONE METASTASES MODULE IN PATIENTS WITH PAINFUL BONE METASTASES**


1Odette Cancer Centre - Sunnybrook Health Sciences Centre - University of Toronto, Radiation Oncology, Toronto, Canada
2NCIC Clinical Trials Group- Cancer Research Institute- Queen's University, Public Health Sciences, Kingston, Canada
3Juravinski Hospital and Cancer Centre and McMaster University, Oncology, Hamilton, Canada
4Centre Hospitalier Universitaire de Sherbrooke, Radiation Oncology, Sherbrooke, Canada
5Hospital Maisonneuve-Rosemont, Radiation Oncology, Montreal, Canada
6CHUM-Hôpital Notre-Dame, Radiation Oncology, Montreal, Canada
7CancerCare Manitoba, Radiation Oncology, Winnipeg, Canada
8Grand River Regional Cancer Centre- Grand River Hospital, Radiation Oncology, Kitchener, Canada
9London Regional Cancer Program, Radiation Oncology, London, Canada
10Cancer Centre of Southeastern Ontario- Kingston General Hospital, Radiation Oncology, Kingston, Canada
11Cross Cancer Institute, Radiation Oncology, Edmonton, Canada
12Tom Baker Cancer Centre- University of Calgary, Radiation Oncology, Calgary, Canada
13University of Ottawa- Ottawa Hospital Research Institute, Radiation Oncology, Ottawa, Canada
14Odette Cancer Centre - Sunnybrook Health Sciences Centre - University of Toronto, Radiation Oncology, Toronto, Canada
15Princess Margaret Hospital- Radiation Medicine Program - Ontario Cancer Institute- University of Toronto, Radiation Oncology, Toronto, Canada
16Queen's University, Radiation Oncology, Toronto, Canada

**Introduction**
Quality of life (QOL) can be compromised in patients with bone metastases. The use of validated QOL instruments is necessary to accurately measure QOL outcomes in this population.

**Objectives**
This study investigates the validity, reliability and responsiveness of the EORTC QLQ-BM22 module with the EORTC QLQ-C15-PAL instrument in bone metastases.

**Methods**
The studied patients underwent palliative radiotherapy to bone metastases as part of the phase III randomised NCIC CTG SC.23 trial. Multitrait scaling analysis was performed to determine convergent and divergent validity among the scales. Pearson coefficients were calculated to determine correlation between the items of the two instruments. The clinical validity and responsiveness of the QLQ-BM22 was tested by known group comparisons of different performance status and response to radiotherapy.

**Results**
204 patients completed both questionnaires at baseline and follow-up. On multitrait scaling analysis, there was mixed evidence of construct validity, likely explained by the questionnaire format and population characteristics. There was little correlation between most QLQ-BM22 and QLQ-C15-PAL items, except for the conceptually related scales. There were statistically significant differences in all QLQ-BM22 scale scores in groups with KPS < 80 vs. KPS ≥ 80 and three out of four QLQ-BM22 scale scores in “responders” vs. “non-responders” to radiotherapy. In patients who responded to radiotherapy, there were statistically significant differences in all QLQ-BM22 scale scores between baseline and follow-up.

**Conclusions**
This study further validates the use of the QLQ-BM22 as a robust and sensitive instrument to assess QOL in patients with bone metastases treated with palliative radiotherapy.

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**PS115**

**EFFICACY OF OMEGA-3 (Ω-3) SUPPLEMENTATION VERSUS OMEGA-6 (Ω-6) SUPPLEMENTATION FOR REDUCING CANCER-RELATED FATIGUE AMONG BREAST CANCER SURVIVORS: A URCC NCORP RANDOMIZED CONTROLLED TRIAL**
**Introduction**
Cancer-related fatigue (CRF), one of the most troublesome side effects for survivors, is associated with increased inflammation levels.

**Objectives**
We conducted a multi-site, blinded phase II RCT examining supplementation rich in ω-3 fats (soybean oil), which has anti-inflammatory properties, versus supplementation rich in ω-6 fats for improving CRF.

**Methods**
Breast cancer survivors 4-36 months post-adjuvant therapy with a CRF level ≥4 (0-10 scale) were stratified by baseline CRF (4-6=moderate and 7-10=high) and randomized into 3 arms: 1) High-dose ω-3 (6g/day), 2) Low-dose ω-3/Low-dose ω-6 (3g/day and 6g/day) for 6 weeks. CRF was assessed via the Symptom Inventory (SI) and Brief Fatigue Inventory (BFI) at pre- and post-intervention.

**Results**
108 female breast cancer survivors were accrued and mean baseline CRF levels did not differ between groups. Biochemical analyses confirmed high compliance in all arms with minimal contamination. ANCOVAs revealed significant differences between groups on the SI (Change: ω-3=−2.5 vs. ω-6=−2.1 vs. ω-6=−0.9, p=0.02; Cohen’s d=0.73). Stratified analyses (Table 1) showed survivors with high-baseline CRF significantly improved on ω-6 fats compared to ω-3 fats (Cohen’s d=0.96) while patients with moderate-baseline CRF improved equally. Stratified results were similar for BFI scores.

**Conclusions**
ω-6 supplementation (soybean oil) significantly reduced CRF, particularly among those with high baseline CRF, compared to ω-3 supplementation. Funding: NCICR03CA175599/UG1CA189961. Nordic Naturals, Inc. supplied all study agents.

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**MICROBIAL BIOMARKERS OF ORAL MUCOSITIS ONSET**
1New York University Langone Medical Center, Clinical Translational Science Institute, New York, USA

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**Table 1**

<table>
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<th>High-Baseline CRF</th>
<th>Moderate-Baseline CRF</th>
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<tr>
<td>ω-3</td>
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<tr>
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**Introduction**
Oral mucositis (OM) is among the most common, painful and debilitating toxicities of cancer regimen-related treatment, resulting in the formation of ulcers, which are susceptible to increased colonization of microorganisms.

**Objectives**
The aim of this study is to explore the changes in the microbiome associated with OM onset in head and neck cancer patients (oral cavity and oropharynx squamous cell carcinoma) undergoing radiotherapy alone (RT) or chemoradiotherapy (chemoRT) using molecular techniques.

**Methods**
We recruited patients scheduled for receiving radiotherapy alone or chemoRT. Site-specific oral biofilms samples were collected using Isohelix swabs at two time points: before initiating RT/chemoRT (pre-OM), and at the onset of OM (post-OM ie OM ≥ 1, WHO scale). Changes in microbial abundance were detected using the Human Oral Microbe Identification using Next Generation Sequencing (HOMINGs) and metagenomic analyses. An integrative computational model estimated average changes of microbial abundance patterns of 768 species identified from pre-and-post OM onset.

**Results**
Relative changes in abundance of 54 microbial biomarkers in 16 subjects were discriminative between pre and post OM.
onset. Discriminant species such as Gemella haemolytica, Granulicatella elegans, Haemophilus spp., Prevotella oris, and Aggregatibacter sp. HOT512 were found to be significantly overabundant in post-OM onset samples as compared to pre-OM.

Conclusions
Our results suggest a dynamic shift in the oral microbiome during the onset of OM. These species may act as opportunistic pathogens in this population, and further investigation is warranted to explore if they facilitate further tissue damage and subsequent pain.

PS117
IMPROVING DELIVERY AND DOCUMENTATION OF SUPPORTIVE CARE MANAGEMENT OF CANCER PATIENT IN RESOURCE-CONSTRAINED DEVELOPING COUNTRIES
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Introduction
Supportive care guidelines are virtually non-existent and testing the locally developed protocol becomes imperative in such situation. Constraint of resources, lack of organization and straining of health-care system prevents devising supportive care protocol and guidelines, delivering appropriate supportive care measures and documentation of complaints, prescription, compliance and follow-up data of patients receiving supportive care in developing countries.

Objectives
Aim of our study is to A. Test the locally developed protocol for supportive care management of cancer B. To ascertain the clinical usefulness and effectiveness of newly devised documentation aid.

Methods
Supportive care management protocol was developed locally based on literature review, personal experience and knowledge of mechanism of action of various drugs and interventions. Data was collected from consecutive patients attending radiation oncology out-patient clinic at Kidwai Memorial Institute of Oncology, Bangalore. Data was collected in the out-patient by instantaneous coding in a separate sheet by simultaneously referring to newly devised documentation aid developed locally. Patients not returning to out-patient after the prescribed supportive care were assumed to have been relieved of their adverse events.

Results
Supportive care protocol of head and neck cancer, hemorrhage and pain abdomen of carcinoma cervix, lung cancer, brain tumors, iv fluid was antibiotic effective in ameliorating adverse effect. Newly devised documentation tool facilitated implementation of supportive care protocol and effortlessly document the symptoms, prescription and follow-up details of cancer patients on supportive care.

Conclusions
Locally developed supportive care protocol and documentation aid is effective in relief of adverse events and documentation of adverse events, its management and follow-up.

PS118
A NOVEL RADIATION THERAPY EDUCATION PROGRAM USING THE VIRTUAL ENVIRONMENT FOR RADIOThERAPY TRAINING (VERT) SYSTEM
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2The Crown Princess Mary Cancer Centre, Radiation Oncology, Westmead, Australia
3The University of Sydney, School of Physics, Sydney, Australia

Introduction
The emergence of virtual learning environments in medicine and patient education have been reported in recent literature, with limited extension into the radiation sciences. The VERT system presents opportunities to facilitate knowledge transfer in radiation therapy (RT) patients, through targeted education packages and salient visual aids, with a focus on radiation dose awareness.

Objectives
To investigate knowledge, anxiety and experiences related to RT in breast cancer patients using a newly developed purpose education tool.

Methods
A tailored education program was developed using the VERT system. Breast cancer RT patients were recruited into a control group (CG) and a VERT group (VG). The VG attended a VERT education program at an offsite location. Questionnaires were used to collect demographic data, patients’ RT knowledge and experience of RT. The State-Trait Anxiety Inventory (STAI) form collected anxiety data. Data was collected at four time points during patients’ treatment pathway at the Crown Princess Mary Cancer Centre.

Results
A total of 18 CG patients and 19 VG patients completed questionnaires at every time point. Data collection for the VG will be completed in February, 2016. Wilcoxon signed-rank test will be used to determine statistical significance of the STAI results, as the population cannot be assumed to be normally distributed. Qualitative data will be analysed using thematic analysis. Data from Likert scale questions will be analysed by descriptive statistics and comparative analysis (Mann-Whitney U test) using SPSS.

Conclusions
This study will contribute to the current RT patient education knowledge, specifically informing future development of tailored VERT based education programs.
Since the discovery of the x-ray in 1895, physicists and clinicians have used forms of radiation in clever ways to diagnose and treat benign and malignant conditions. In the early days of radiation therapy, sources were applied directly against cancerous growths and tumour localization was based on clinical examination; the goal of therapy was palliation and local control. In the 1960s and 1970s, the primary goal of therapy was still tumour control; physical disfigurement and impairments were afterthoughts. Despite aggressive en bloc procedures and large radiation volumes, disappointingly poor loco-regional control rates led to the concept of combined modality regimens in the 1980s and 1990s. The rationale to escalate treatment intensity for organ preservation increased the severity of side effects, and did not necessarily preserve organ function. The desire to improve the therapeutic index have led to new high precision therapies and even dose de-escalation trials. We will revisit therapies, old and new, and their impact on patients’ symptoms.


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therapeutic index have led to new high precision therapies and even dose de-escalation trials. We will revisit therapies, old and new, and their impact on patients’ symptoms.
Children’s Haematology Oncology Centre, Christchurch, New Zealand

**Introduction**
Information about cancer, treatment, potential late effects and lifestyle is important for childhood cancer survivors (CCS) and parents to ensure engagement with appropriate survivorship follow-up practices.

**Objectives**
We assessed 1) information needs of survivors and parents; and 2) associations between unmet information needs and clinical and socio-demographic characteristics.

**Methods**
Self-reported questionnaires completed by CCS and parents of CCS who were >5 years post-diagnosis, recruited from 11 hospitals in Australia and New Zealand evaluated information needs (medical, psychosocial and lifestyle aspects) and socio-demographic/clinical characteristics. We examined predictors of total information needs using multivariable linear regression.

**Results**
327 survivors (mean age: 26.5 years, SD=8.0; time since diagnosis: 19.5 years, SD=8.8) and 167 parents (child age: 13.6 years, SD=4.4; time since diagnosis: 10.5 years, SD=4.1) participated (response rate 81.9%). Most survivors (85.9%) and parents (86.8%) reported at least one unmet information need. Overall, most reported unmet needs for survivors and parents were late effects (57.2% resp. 54.2%) and second cancers (53.6% resp. 51.7%). Comparing both populations, parents had significantly more unmet needs regarding CCS’ lifestyle, whereas survivors had more unmet needs for medical information. Socio-demographic factors were not associated with unmet information needs. Parents and survivors who reported lower overall health (p=0.001), higher perceived risk of late effects (p=0.008) and anxiety/depression (p=0.007) had significantly more unmet information needs.

**Conclusions**
Most unmet information needs were reported for medical topics. This data can guide best delivery of tailored information on potential late effects, healthy lifestyle choices and survivor follow-up care to decrease perceived risk of late effects and increase overall health.

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**ePD003**

**BARRIERS TO SURVIVORSHIP FOLLOW-UP CARE WITH A PRIMARY CARE PHYSICIAN: IMPLICATIONS FOR MODELS OF CHILDHOOD CANCER SURVIVORSHIP CARE**
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1University of New South Wales, Kids Cancer Centre, Kensington, Australia

**Introduction**
New models of follow-up care are required to manage the increasing number of childhood cancer survivors (CCS). General practitioners (GPs) are well placed to provide holistic care.

**Objectives**
To understand CCSs preferences, and GPs’ role and confidence in providing care to CCS.

**Methods**
CCS and parents of survivors <16 years were surveyed (stage 1) and interviewed (stage 2) on their survivorship care preferences. Survivors’ GPs were also interviewed regarding their role and confidence in childhood cancer survivorship care (stage 3). Mixed-methods analyses were performed using SPSS 22.0 and NVivo 10.

**Results**
Stages 1/2: 494 questionnaires were completed by 327 CCS (mean age: 26.8 years; mean time since diagnosis: 17.6 years, SD=8.7), and 167 parents (child age: 12.4 years; time since diagnosis: 7.8 years, SD=2.7). Questionnaires were complemented by 78 in-depth interviews. Few survivors nominated GPs as their first choice for follow-up care (12% vs 2% parents, χ²=32.183, p<0.001). Parents appeared unwilling to visit a GP for their child’s survivorship care (39% vs 65% of survivors, χ²=24.097, p<0.001). Twenty-two percent of survivors reported their GP was best placed to meet their needs (vs 5% of parents, χ²=20.457, p<0.001), but only some had a regular GP (66%). Stage 3: Interviews with 38 GPs revealed that GPs are eager to provide survivorship support with appropriate training/liaison from tertiary services, but lack confidence (47%), particularly in understanding CCS’ unique health needs (60%).

**Conclusions**
To enhance the quality of GP-led care, survivors’ concerns for GP-led care, GP support/training, and communication between GPs and tertiary services must be addressed.

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**ePD004**

**LEVELS AND PREDICTORS OF DISTRESS AND UNMET PSYCHOSOCIAL NEEDS IN AYA OFFSPRING OF CANCER PATIENTS AND THE IMPACT OF A PSYCHOSOCIAL ASSESSMENT AND REVIEW PROCESS**
P. Patterson1, F. McDonald1, A. Walczak1
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**Introduction**
Offspring with a parent with cancer are the largest Adolescent and Young Adult (AYA) cancer-impacted population. Parental cancer can substantially influence offspring development, behavioural and emotional outcomes.

**Objectives**
a) to describe distress and unmet needs levels in parental cancer-impacted AYA offspring, b) highlight factors predictive of these, and c) explore the implementation of a systematic needs and distress screening process in an Australian AYA cancer support organisation (CanTeen).

**Methods**
236 AYA offspring (12-24 years) with a living parent with cancer completed the Kessler-10 (K10) distress measure and Offspring Cancer Needs Instrument (OCNI). Using descriptive and multiple linear regression analyses, needs/distress levels and predictors were identified. Utilising the K10 and other needs measures, CanTeen developed and
implemented a Psychosocial Assessment and Review Process (PARP) within an Individual Psychosocial Support Model (IPSM).

Results
AYA offspring distress levels were 3-6x higher than similar age Australian population cohorts. Offspring had 22.4 unmet needs on average and 77% had ≥10 unmet needs. Being female, older, having more unmet needs and poorer family functioning were associated with increased distress. Having a father with cancer, less time since diagnosis and poorer family functioning were associated with increased unmet needs. To date, 168 AYA offspring have completed PARP follow-up within the IPSM with the proportion reporting a) high/very high distress declining from 47.6% to 38.1% and b) unmet needs declining from 50.9% to 39.0% at follow-up.

Conclusions
Implementing the PARP within the IPSM enables CanTeen to provide responsive and directed support consistent with the individual experiences AYA offspring impacted by parental cancer.

cPD005

PATIENTS’ OPINIONS ON POTENTIAL FEATURES OF AN ORAL ANTICANCER MEDICATION ADHERENCE APP

E.E. Ali1, J.L. Leow2, L. Chew1,2, K.Y.L. Yap1

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2National Cancer Centre Singapore, Department of Pharmacy, Singapore, Singapore

Introduction
Smartphone apps are potentially useful in dealing with the problem of poor adherence to oral anticancer medications (OAM). However, currently available apps have deficiencies in terms of addressing patient needs.

Objectives
To identify patients’ interests and feature preferences in using OAM adherence apps.

Methods
A cross-sectional survey of patients on OAMs was conducted at a local cancer centre. A structured questionnaire was used to collect data on socioeconomic demographics, mobile device ownership, interest in using adherence apps and app feature preferences. Descriptive statistics and chi-square tests were used for data analysis.

Results
From the 291 respondents who took part in the survey, 206 (70.8%) were female and 223 (76.6%) were younger than 65 years. Majority (241, 82.8%) owned smartphones, of which more than half (60.2%) ran on the Android operating system. A quarter (62 respondents, 25.7%) had health-related apps on their smartphones. More than half (166/241, 68.9%) of the respondents with smartphones expressed interest in using a medication adherence app. Younger patients (p=0.001) and those with higher level of education (p=0.032) were more likely to be interested in using a medication adherence app. Access to medication-related (67.3%) and disease-related information (61.2%), and a tool for self-management of side effects (61.7%), were the top three features that respondents wanted in a medication adherence app.

Conclusions
Patients are interested in using apps to manage their adherence to OAMs. OAM adherence apps should meet patients’ demands for disease- and medication-related information and side effect management tools.

cPD006

FACTORS CORRELATING WITH SHORTER SURVIVAL AFTER TREATMENT: AIDING ONCOLOGISTS TO CHOOSE WHO (NOT) TO RECEIVE PALLIATIVE SYSTEMIC THERAPY

P.Y.P. Hu1, H.F. Lee2

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2University of Hong Kong, Department of Clinical Oncology, Hong Kong, Hong Kong- China

Introduction
Nowadays, more metastatic cancer patients are receiving palliative systemic therapy near end-of-life. Patients starting such treatment are typically judged by oncologists to have ≥12weeks’ survival; however, accurate individual survival-prediction is difficult. Systemic therapy started too late can worsen patients’ quality-of-life, and may even shorten survival from treatment side effects.

Objectives
Our study objective is to identify factors correlating with shorter (<6weeks) non-malignancy-related survival in metastatic cancer patients receiving palliative systemic therapy, so as to aid oncologist in the decision-making of starting treatment or not.

Methods
A review of deceased metastatic cancer patients treated with palliative systemic therapy from January 2013 over 2years in a Hong Kong cancer centre was performed. Patients were subcategorized into dying within/after 6weeks since starting last line of treatment, and also by their causes of death (malignancy-related or non-malignancy-related). Univariable analyses were performed to determine association of different factors with non-malignancy-related death that happened within 6weeks of starting last line of treatment. Multivariable analyses were performed with significant factors to determine their independent effect.

Results
Seven hundred and fifty-four patients were analyzed. Mean age was 63.6 years-old (range 21-102); female 48.7%. Older age (≥75 years) (p=0.007) and active liver metastasis (p=0.042) were significant predictors for early (<6weeks) non-malignancy-related death in multivariable analyses. They have 2.012 times and 1.115 times higher chance respectively to die of non-malignant causes within 6weeks since starting last line of treatment.

Conclusions
Oncologists should exercise extra caution when encountering elderly patients with active liver metastasis, especially regarding the issue of starting palliative systemic therapy.

cPD007
A FEASIBILITY TRIAL OF GERIATRIC ASSESSMENT AND INTEGRATED CARE PLAN FOR OLDER CANCER PATIENTS

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1University of Toronto, Lawrence S. Bloomberg Faculty of Nursing, Toronto, Canada
2Princess Margaret Cancer Centre, Medical Oncology, Toronto, Canada
3Jewish General Hospital, Division of Geriatric medicine, Montreal, Canada
4Toronto General Hospital, Medicine, Toronto, Canada

Introduction
A comprehensive geriatric assessment (CGA) can identify current health issues and recommend interventions to decrease adverse outcomes and optimize the functional status and well-being of older adults. However, there is limited and conflicting evidence regarding the effectiveness of CGA in oncology settings.

Objectives
To examine the feasibility and the impact of a CGA and integrated care plan in optimizing outcomes in older patients with advanced breast (BC), gastrointestinal (GI) or genitourinary (GU) cancers.

Methods
A two-group parallel single-blind phase II RCT enrolled 60 patients aged 70+, diagnosed with stage 2-4 GI, GU or BC, referred for chemotherapy or having received <6 weeks of chemotherapy at Princess Margaret Cancer Centre. Patients need to be fluent in English, have a life expectancy >6 months, ECOG PS 0-2 and able to provide informed consent. Randomization to intervention versus control group is 1:1 and stratified by treatment intent. The intervention includes a full CGA by a multidisciplinary team. Based on the CGA and discussion with the patient, tailored evidence-based interventions using a standardized intervention protocol were implemented. The co-primary outcomes are: 1) quality of life (QoL) (EORTC QLQ-C30); 2) modification of the cancer treatment plan. The secondary outcomes are: 1) functional status (OARS Instrumental Activities of Daily Living); and 2) feasibility of the study by tumor site.

Results
Analyses are planned for the end of February and results will be presented at the conference

Conclusions
The results of this pilot RCT of CGA will be used to inform the design of a larger study.

ePD008

HEALTH BEHAVIOURS IN SURVIVORS OF CHILDHOOD CANCER: MODIFIABLE RISK FACTORS FOR DEVELOPING LATE EFFECTS

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Introduction
Childhood cancer survivors (CCS) are at risk of late effects and second neoplasms during survivorship. Health behaviours (such as exercising, sun protection, dental care) are important modifiable behaviours that may help to reduce the occurrence of late effects and second cancers.

Objectives
To explore the extent to which CCS engage with appropriate health behaviours

Methods
CCS and parents of CCS >5 years since treatment from hospitals around Australia and New Zealand self-reported on current health behaviours. An age-matched control group was recruited to compare rates of behaviours.

Results
327 CCS (average age 27years, SD=7.8; on average 19.7years since diagnosis, SD=8.8), 140 parents of CCS (child average age 12years, SD=2.2; on average 9.5years since diagnosis) and 640 healthy controls participated. Use of sunscreen, long-sleeved shirt, and a wide-brimmed hat were not different between CCS and controls, however, more CCS had undergone a skin check with a doctor in the last 24 months (42% vs 21% p<.001). Rates of smoking were lower in CCS than controls (5% v 11%, p<.001). CCS engaged in fewer appropriate dental practices including flossing everyday (5% vs 9%, p<.012). CCS and controls did not differ on average amount of exercise or alcohol consumption. CCS who were female (p<.001) and who engaged in more risky behaviours reported worse quality of life (p<.001).

Conclusions
Many CCS health behaviours are similar to or better than age-matched controls. However, dental practices among CCS are below that of controls and are an area for potential future intervention.

ePD009

ELECTROCARDIOGRAPHIC FINDING CHANGE IN ADVANCED CANCER PATIENTS

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Introduction
We retrospectively reviewed 134 patients who had advanced NSCLC and was started chemotherapy between January 2010 and September 2011 at our hospital. Electrocardiogram and CT were obtained at baseline, 6 months after diagnosis
Introduction
The prevalence of under-treated cancer pain in Asia has been reported with a weighted mean of 59.1%, compared with mean values of 39.1% and 40.3% in North America and Europe, respectively.

Objectives
To investigate the impact of cancer pain and management practices on patients' quality of life (QoL) in Asian countries.

Methods
Patients aged ≥ 18 years with a documented history of cancer pain in the preceding month were randomly selected in 10 Asian countries and surveyed with a 33-item questionnaire assessing attitudes and perceptions towards cancer pain management. Correlation analysis was conducted to explore the factors affecting the activities of daily living (ADL), reflecting QoL.

Results
Of the 1,190 patients surveyed, 1,026 reported moderate-to-severe pain (median duration, 12 months). Patients agreed that their pain affected ADL (86%), sleeping patterns (87%), concentration and focus (92%), as well as causing too much reliance on other people (67%). Only 22% of patients were employed. Among the variables tested, there was no prognostic factor including pain intensity for ADL. However, subpopulation data showed correlation as table below (strong relationship; > 0.5 or < -0.5); sleeping pattern and overall QoL are found to independently correlate with impact on performance at work and worry over possibility of having to stop work in the employed patients in China.

<table>
<thead>
<tr>
<th>Activities of daily living (ADL)</th>
<th>My pain impacts on my performance at work</th>
<th>I worry that because of my pain, I will have to stop working</th>
</tr>
</thead>
<tbody>
<tr>
<td>My pain affects my sleeping pattern</td>
<td>-0.4*</td>
<td>0.5</td>
</tr>
<tr>
<td>My pain affects my concentration and focus</td>
<td>0.3</td>
<td>0.5</td>
</tr>
<tr>
<td>My pain affects my activities of daily living</td>
<td>0.6*</td>
<td>0.7*</td>
</tr>
<tr>
<td>My pain forces me to rely too much on other people</td>
<td>0.6*</td>
<td>0.4</td>
</tr>
<tr>
<td>Overall, I have a good quality of life</td>
<td>-0.7*</td>
<td>-0.6*</td>
</tr>
</tbody>
</table>

*Values above 0.5/ below -0.5 indicate a strong relationship.

Conclusions
The ACHEON study results show that cancer pain significantly affects multiple aspects of quality of life. Further research is warranted to understand the factors affecting patient’s QoL to improve it.

ePD011

PREVALENCE OF AND FACTORS ASSOCIATED WITH SARCOPENIA IN KOREAN CANCER SURVIVORS: BASED ON DATA OBTAINED BY KOREAN NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY (KNHANES) 2008-2011

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Introduction
Identification of subjects at risk of sarcopenia is important for cancer survivors, since the presence of sarcopenia is associated with poor prognosis.
Patients. Presence of sarcopenia and changes in FFM and muscle loss over time were determined and related to overall survival using Kaplan-Meier plots.

**Results**
Prior to treatment 25 (61%) patients were sarcopenic, increasing to 35 (85%) patients at 3-months post-treatment. Clinically significant muscle loss (>6cm²) occurred in 16 (50%) patients by week 4 of treatment and in 22 (54%) of patients by 3-months post-treatment. Compared to baseline, FFM decreased -3.3kg (+7.0) by week 4, and -2.0kg (+3.4) by 3-months post-treatment. Mean survival (months) was lower in patients with sarcopenia prior to treatment compared to those without sarcopenia but not statistically significant (47.7 + 5.6 vs 28.9 + 4.1, P = .17). Mean survival did not differ in patients with significant muscle loss by 3-months post-treatment compared to those with stable muscle (44.5 + 6.3 vs 40.7 + 6.1, P = .75).

**Conclusions**
Sarcopenia and substantial muscle loss occurs during and following chemo-radiation for NSCLC but was not significantly associated with poorer survival in this study.

ePD013

**INTER-RATER RELIABILITY OF NUTRITIONAL ASSESSMENT TOOLS IN THE ONCOLOGY SETTING**

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**Introduction**
Early identification of individuals at high risk of malnutrition is crucial as it facilitates appropriate nutritional intervention to prevent or reduce negative health outcomes. Several nutrition assessments are used by a dietitian (or clinician trained in nutrition), to assess the nutritional status of cancer patients and determine appropriate nutrition intervention.

**Objectives**
To investigate 1) validated nutrition assessment tools for the oncology setting; 2) who (i.e. patient and clinician, clinician alone) administers the nutritional assessment tools; and 3) inter-rater reliability of the tools.

**Methods**
A literature search was conducted using CINAHL, EMBASE, PUBMED, and Wiley Online Library.

**Results**
The three most common nutrition assessment tools used by clinicians were the Mini Nutritional Assessment (MNA), Subjective Global Assessment (SGA), and the scored patient generated SGA (PG-SGA). While the MNA is valid in older cancer patients, SGA and PG-SGA have been validated in a broad range of cancer patients. However, there are discrepancies in the mode of administering these tools, as some tools such as the PG-SGA, the intended use is to be administered by the patient first and then completed by the clinician, however it can be administered by the clinician in its entirety. Additionally, the inter-rater reliability is often not reported, which does not allow for sufficient comparisons between similar studies.

**Conclusions**

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**SKELETAL MUSCLE DEPLETION AND RELATIONSHIP TO SURVIVAL IN NON-SMALL CELL LUNG CANCER PATIENTS RECEIVING CHEMO-RADIATION**

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**Introduction**
Clinically significant weight loss is prevalent in patients receiving curative intent chemo-radiation for non-small cell lung cancer (NSCLC). Data on body composition changes is limited to patients receiving chemotherapy alone.

**Objectives**
To identify changes in skeletal muscle in NSCLC patients during and post-chemo-radiation and relationship with survival.

**Methods**
A prospective study of 41 patients with NSCLC treated with chemo-radiation who were assessed for skeletal muscle index (SMI) and fat-free mass (FFM) by computed tomography prior to treatment and 3-months post-treatment. Images at week 4 of treatment were available for 32 (78%) patients. Presence of sarcopenia and changes in FFM and muscle loss over time were determined and related to overall survival using Kaplan Meier plots.
Valid nutrition assessment tools for cancer patients include the SGA and PG-SGA and MNA for older cancer patients only. Not reporting on mode of administration and inter-rater reliability highlights the need for studies to measure and assess the inter-rater reliability of these tools.

ePD014

OCCUPATIONAL RISK OF EXPOSURE TO CYTOSTATIC DRUGS
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Introduction
Health professionals are aware of the implications and health risks from unsuitable handling of chemotherapeutic drugs. However, a large percentage of nurses lack knowledge on this subject.

Objectives
The aim of this study is to investigate the occupational risks to the nursing staff from exposure to cytostatic drugs.

Methods
Data were obtained from published and unpublished (gray) literature. A systematic review was performed on the databases (Medline, Cinahl and Google scholar), using keywords. Electronic database searches were undertaken in October 2015.

Results
Systematic review and meta-analysis showed that cytostatic drugs affect both tumor and healthy cells.

Conclusions
Studies indicate that observing certain precautions, while handling chemotherapy, reduce personnel exposure and presumably risk. Each institution ought to invest in the specialization of the personnel so as to minimize potential hazards to personnel handling chemotherapy.

ePD015

PROGNOSTIC SIGNIFICANCE OF CT-DETERMINED EMPHYSEMA IN PATIENTS WITH SMALL CELL LUNG CANCER
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Introduction
Although emphysema is a known independent risk factor of lung cancer, no study has addressed the prognostic impact of CT-emphysema score in small cell lung cancer (SCLC).

Objectives
To evaluate the prognostic value of emphysema score determined by baseline CT scan in patients with SCLC.

Methods
We analyzed 149 consecutive patients with SCLC. The severity of emphysema was semi-quantitatively scored using baseline chest CT images according to the Goddard scoring system, ranging from 0 to 24. Data on clinical characteristics and survival were retrospectively collected. Maximal chi-square method was used to determine the optimal cutoff point for CT-emphysema score. Overall survival (OS) was estimated by the Kaplan-Meier method and compared with the log-rank test. A multivariable Cox proportional hazard model was used to identify prognostic factors.

Results
Median patient age was 70 years (range, 38–92) and 67.8% had extensive disease at time of diagnosis. Most were male (85.2%) and current/ex-smokers (87.2%). The median CT emphysema score was four (range, 0–23). Patients with a high CT-emphysema score (≥ 8) have poorer OS than those with a score of < 8 (median: 5.0 months versus 12.3 months; p < 0.001). Multivariable analysis revealed that a higher CT-emphysema score was an independent prognostic factor of poor OS (hazards ratio, 1.57; 95% confidence interval, 1.07–2.30; p = 0.020), along with extensive stage (p < 0.001), supportive care only (p < 0.001), and an elevated lactate dehydrogenase level (p = 0.034).

Conclusions
Emphysema severity determined by baseline CT is significantly associated with poor prognosis in patients with SCLC.

ePD016

VERTEBROPLASTY IN PATIENTS WITH PROSTATE CANCER RAISES SPECIFIC SUBTYPES OF SKELETAL COMPLICATIONS.
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Introduction
Prostate cancer (PCa) provides skeletal complications (SC) in patients with bone metastases (symptomatic skeletal events: SSE) or not (osteoporosis complication). Although PCa is well known for osteoblastic metastases, we assume that specific subtypes of SC (benign SC or osteolytic metastases) are eligible for vertebroplasty.

Objectives
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To characterize SC (benign, bSC versus malignant, mSC) in PCa patients who underwent vertebroplasty, using a composite criterion (bone scan, CT scan, MRI +/- bone biopsy), and describe respective populations.

**Methods**

An observational monocenter retrospective study, from 2008 to 2015.

**Results**

Fifty-one patients, mean age 71.3 (52-89) and 67 SC were reported: 38 (57%) mSC (70% with at least osteolytic component) and 29 (43%) bSC, including 8 (12%) and 17 (25%) patients without (M0) and with bone metastases (bM), respectively; 10 (15%) patients with bSC received >6 months, ≥7.5mg/day equivalent prednisone (table1). In patients with continuous androgen deprivation therapy (ADT), median time from ADT initiation to the first vertebroplasty was 3.3 versus 5.1 months respectively for mSC and bSC.

**Conclusions**

These data remind the necessary prevention of bSC in M0 patients and raise the importance of bSC in bM pts with consequences on patient management, while studies for bone targeted agents approval used SSE to define all SC (benign or malignant). Occurrence of bSC in M0 or bM patients may increase with longer survival due to progresses in specific treatments, needing to maintain ADT and sometimes corticosteroids. Finally, malignant SCs were mostly with osteolytic component, which constitutes one feature of rising dedifferentiated phenotype.

**ePD017**

**INDIVIDUAL VS. DYADIC INTERVENTION TO INCREASE PHYSICAL ACTIVITY AND REDUCE DEPRESSION AND ASSOCIATED INFLAMMATION AMONG LESBIAN, GAY, AND HETEROSEXUAL CANCER SURVIVORS AND CAREGIVERS**

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**Introduction**

Our research shows that lesbian/gay (LG) cancer survivors experience high rates of depression and that standardized aerobic and resistance exercise (EXCAP100). Exercise for Cancer Patients) is efficacious in reducing depression and associated inflammation in heterosexual survivors.

**Objectives**

We conducted a novel cancer control trial testing two exercise interventions with the objective of reducing depression and inflammation in both LG and heterosexual survivors and their caregivers (CGs).

**Methods**

In this randomized trial, 42 LG and heterosexual survivors and their CGs were randomized as dyads to: Arm 1) dyadic exercise, involving both survivor and CG; or Arm 2) survivor-only EXCAP100. Depression symptoms (from the CES-D) and cytokines (IFN-γ, IL-6, IL-8, IL-10) were measured at baseline and post-intervention (6 weeks later). We used t-tests to assess baseline disparities, ANCOVA to assess the effect of intervention arm, and Pearson correlations to assess associations between changes in depression and inflammation.

**Results**

At baseline, LG survivors reported higher depression (t=-2.23, p=0.04), and expressed higher IL-6 (t=-2.53, p=0.02) and IL-8 (t=2.37, p=0.03) than heterosexuals. Among LG and heterosexual survivors, dyadic exercise significantly improved depression relative to survivor-only exercise (M=-5.17, vs. M=-2.43; p=0.02). Decreased depression was associated with decreased IL-6 (r=0.40, p = .03) and IL-8 (r=0.39, p=0.04); in analyses by sexuality group and intervention, these associations were significant only among LG survivors in the dyadic exercise condition.

**Conclusions**

This study offers preliminary support for the use of exercise and dyadic exercise to reduce depression among LG and heterosexual survivors. It suggests this improvement may be mechanistically associated with reduced systemic inflammation.

**ePD018**

**DYADIC INTERDEPENDENCE IN PSYCHOSOCIAL OUTCOMES AND THE ROLE OF UNMET NEEDS AMONG PATIENTS WITH HAEMATOLOGICAL CANCERS AND THEIR SUPPORT PERSONS**

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**Introduction**

There are limited data regarding dyadic effects on psychosocial wellbeing among cancer patients.

**Objectives**

This study aimed to explore the relationships between unmet need, depression, disease factors and socio-demographic factors in a sample of people diagnosed with haematological cancer and their support persons.
Methods
Adult survivors diagnosed with a haematological cancer were recruited to a cross-sectional mailed survey via five cancer registries in Australia. Participating survivors were asked to invite a support person to complete a survey. Structural Equation Modelling was used to explore the relationship between survivor and support person depression, anxiety and unmet needs.

Results
Of the 4,299 eligible haematological cancer survivors contacted by the registries, 1,511 (35%) returned a completed survey as did 1,004 support persons. There were 787 dyads with complete data for all variables of interest. After adjusting for age, gender, rurality and cancer type and whether the support person was a relative; positive correlations were found between survivor and support person scores for depression (p = 0.0029) and unmet needs (p < 0.001), but not anxiety scores (p = 0.075). Survivor unmet needs were significantly related to support person depression (p = 0.0036). Support person unmet needs were significantly related to higher depression score for survivors (p = 0.0067). Greater support person unmet needs were significantly related to higher anxiety score for survivors (p = 0.0083).

Conclusions
The psychosocial experiences of haematological cancer survivors and their support persons exhibit a significant measure of inter-dependence, with the role of unmet needs being a mediator of these effects.

ePD019
EXERCISE DECREASES DEPRESSION AND IMPROVES QUALITY OF LIFE IN CANCER SURVIVORS WITH ELEVATED DEPRESSIVE SYMPTOMATOLOGY
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Introduction
Increasing evidence suggests exercise alleviates depression. However, little is known about the influence of exercise on depression and overall wellbeing in cancer survivors suffering with compromised mental health.

Objectives
This study examined whether two different exercise interventions influenced symptoms of depression in a cohort of cancer survivors with elevated baseline depression. Additionally, secondary outcomes of mental health and quality of life were measured.

Methods
Thirty-two participants (58.9 ± 10.8yrs) were allocated to a 12-week clinic-based, supervised exercise group (n = 10), an unsupervised, home-based exercise group (n = 8), or a usual care control group (n = 14). The supervised group performed two combined resistance and aerobic sessions weekly. Home-based participants were provided with printed material about benefits of exercise and were encouraged to complete 150 minutes of exercise weekly. Controls received no exercise or printed material and were encouraged to maintain usual activity.

Results
A group x time interaction was found for depression, measured using the Hospital Anxiety and Depression Scale (HADS-D: p = .004). Both supervised (7.4 ± 4.3 to 3.8 ± 2.4, p = .002) and home-based (7.5 ± 4.5 to 4.5 ± 4.6, p = .016) interventions reduced depression scores compared to control (7.5 ± 3.4 to 8.1 ± 4.0). Secondary outcomes of anxiety, quality of life, and satisfaction with life all favoured exercise.

Conclusions
Initiating either supervised or self-managed exercise programs elicited beneficial mood changes in survivors experiencing elevated depression. Therefore, exercise promotion or referral should be considered, especially for patients who present with depressive symptomatology.

ePD020
THE ASSOCIATION OF PATIENT CHARACTERISTICS WITH DERMATOLOGIC TOXICITY SEVERITY IN PATIENTS TREATED WITH PANITUMUMAB AND FOLFOX OR FOLFIRI
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Introduction
Dermatologic toxicity is the most common adverse event associated with epidermal growth factor receptor (EGFR) inhibitors and can be a barrier to therapy. Because dermatologic toxicity severity has been linked with efficacy of EGFR inhibitors, identification of patient characteristics associated with dermatologic toxicity severity could inform treatment choices.

Objectives
To evaluate patient characteristics that may be associated with dermatologic toxicity severity and panitumumab treatment in patients with wild-type RAS metastatic colorectal cancer.

Methods
Data from the randomized, first-line, phase III PRIME trial of panitumumab+FOLFOX vs FOLFOX alone and the randomized, second-line, phase III 20050181 trial of panitumumab+FOLFIRI vs FOLFIRI alone were analyzed to determine the association of dermatologic toxicity severity with patient characteristics and lab values.

Results
In the panitumumab arms from 20050181 and PRIME, we observed that patients with grade (G) ≥ 4 dermatologic toxicity consistently had a trend of lower neutrophil-to-lymphocyte ratio (NLR) vs those with G0–1 at baseline, week 2–3, 4–5, 6–7, and 8–9 (Table 1; baseline, week 8–9 shown). Because of potential bias introduced by pooling local site data, further analyses will be completed prior to presentation. Carcinoembryonic antigen (CEA) was
Methods

Elevated in G0-1 dermatologic toxicity patients treated with panitumumab+FOLFOX but reduced in G0-1 patients treated with panitumumab+FOLFIRI, when each was compared with G2-4 dermatologic toxicity patients (Table 2).

<table>
<thead>
<tr>
<th>Table 1</th>
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<tbody>
<tr>
<td><strong>Table 2</strong></td>
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<tr>
<td><strong>Grade 0-1</strong></td>
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<tr>
<td><strong>Baseline NLR</strong></td>
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<tr>
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<td><strong>Median</strong></td>
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<td><strong>Q1, Q3</strong></td>
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<tr>
<td><strong>Max, min</strong></td>
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<tr>
<td><strong>p-value</strong></td>
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<td><strong>Q1, Q3</strong></td>
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<td><strong>Max, min</strong></td>
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<td><strong>p-value</strong></td>
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</table>

Conclusions

This study did not clearly identify patient characteristics that are potential dermatologic toxicity biomarkers. Further studies are required to understand the relationship between NLR and dermatologic toxicity severity.

**ePD021**

**NICOTINAMIDE ADENINE DINUCLEOTIDE: A NEW THERAPEUTIC OPTION FOR ATTENUATING AFTER CHEMOTHERAPY EFFECTS.**

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Introduction

Otoxicity is an important issue in patients receiving cisplatin chemotherapy. Several mechanisms, including oxidative stress, DNA damage, and inflammatory responses, are closely associated with cisplatin-associated otoxicity. NAD+ acts as a cofactor for various enzymes including sirtuins (SIRTs) and poly(ADP-ribose) polymerases (PARPs), and therefore, maintaining adequate NAD+ levels has therapeutic benefits through its effect on NAD+-dependent enzymes.

Objectives

We investigated the role of NAD+ metabolism on cisplatin-induced otootoxicity, and the effect of increased levels of intracellular NAD+ on cisplatin-induced otoxicity.

Methods

We investigated the role of NAD+ metabolism on cisplatin-induced otoxicity, and the effect of increased levels of intracellular NAD+ on cisplatin-induced otoxicity. The NAD+ redox balance is critically involved in cisplatin-induced adverse effects with a particular focus on NAD+-dependent cellular pathways.

**ePD022**

**THE GUT HORMONES GLUCAGON-LIKE PEPTIDES 1 AND 2 (GLP-1 AND GLP-2) ARE ESSENTIAL FOR THE INTESTINAL RECOVERY AFTER CHEMOTHERAPY.**

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Introduction

Glucagon-like peptide-1 and -2 (GLP-1 and GLP-2) are hormones secreted from entero-endocrine L-cells after nutrient intake and intestinal injury. It has been shown that the hormones can ameliorate mucositis in rat and mice.

Objectives

We hypothesize that mice lacking the ability to secrete both hormones have an impaired intestinal recovery.

Methods

Female diphtheria-toxin-receptor-cellular knockout mice (TgN(GCG.DTR)(GCG+)) injected twice with diphtheria toxin (DT) allowed us to study the effect of chemotherapy in mice with acute depletion of L-cells. Mucositis was induced by 5-FU (400mg/kg) administration on day 0 and mice were sacrificed at day 5. Endpoints were daily body weight (BW) small intestinal weight (SI) and histology. Plasma GLP-2 was measured. In another study GCG+ and WT females were treated with both GLP-1 and GLP-2 (12.5µg of each) twice daily from day -2 to 5.

Results

Five days after 5-FU the GCG+ mice had severe bloody diarrhea, a significant (p<0.05) lower BW and SI weight compared to WT mice and a higher histological crypt damage score. Only WT mice had an increased plasma
GLP-2. GCG+ mice treated with GLP-1 and GLP-2 before and during 5-FU did not lose BW as the untreated GCG+ mice (Fig. 1). They had significant (p<0.05) higher SI-weight compared to untreated GCG+ mice (Fig. 2).

Conclusions
We concluded that the recovery from 5-FU induced mucositis, does depend on the ability to secrete GLP-1 and GLP-2 from the entero-endocrine L-cells. Mice lacking L-cells can be rescued from severe mucositis by substitutions by the peptides.

Patients’ receiving the aforementioned drugs either as combination or single-agent therapy were identified through our CPOE system (OPIS2005) and cycle bloodwork was extracted from our electronic health records system (Sunnycare).

Results
A total of 316 head and neck, 197 colorectal, and 58 gynecological cancer patients were included in the analysis. Only 84% of patients had baseline serum magnesium value reported. Grades 1 and 2 hypomagnesemia occurred in 109 (34%) head and neck cancer, 84 (42%) colorectal and 20 (34%) gynecological patients. Grades 3 and 4 hypomagnesemia occurred in only seven (3.5%) colorectal cancer patients. Only 29 (71%) patients that developed grade 2 or higher hypomagnesemia were supplemented with IV magnesium sulfate. Ten percent of patients were magnesium deficient before the start of their first cycle of treatment. Overall, 351 patients (61%) maintained normal serum magnesium levels throughout treatment. Panitumumab, high-dose cisplatin, and cetuximab were most likely to lead to hypomagnesemia.

Conclusions
Serum magnesium is an important test which should be a part of the standard blood workup for cancer patients being treated with an EGFR inhibitor or platinum agent. Patients with grade 2 or higher hypomagnesemia may improve when supplemented with IV magnesium sulfate.

ePD024

ORAL ADMINISTRATION OF THE AMINO ACIDS CYSTINE AND THEANINE ATTENUATES ADVERSE EVENTS OF ADJUVANT CHEMOTHERAPY S-1 IN GASTROINTESTINAL CANCER PATIENTS

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Introduction
Oral fluoropyrimidines cause injury to the mucosal epithelium resulting in gastrointestinal adverse events (AE) and thus reduce the completion rate of treatment. The amino acids cystine and theanine (CT) provide substrates for glutathione, an antioxidant, and have been reported to improve immunosuppression and inflammation during invasive conditions.

Objectives
To explore whether oral administration of CT attenuates gastrointestinal AE in patients receiving oral fluoropyrimidine S-1.

Methods
Patients having undergone a radical operation for gastric or colorectal cancer and adjuvant chemotherapy with S-1 were randomized to two groups: the CT-treated (N=32) and non-CT-treated group (C group, N=31). The chemotherapy was carried out on a 4-week medication/2-week withdrawal schedule, and patients of the CT-treated group received 700 mg of cystine plus 280 mg of theanine daily for 5 weeks from 1 week before the start until the completion. The AE
were checked according to CTCAEv4.0 before the start and on days 14 and 28 of chemotherapy.

**Results**
The incidence of G2 or more severe AE in the C group and that in the CT-treated group were as follows: granulocytopenia, 14.8% and 9.7%; stomatitis, 12.9% and 3.1%; diarrhea, 25.8% and 3.1%; and fatigue, 12.9% and 0%, respectively; hence all these being lower for the CT-treated group, with a statistical significant difference for diarrhea ($P<0.01$). The completion rate of S-1 therapy was significantly higher for the CT-treated group (75.0%) than for the C group (35.5%).

**Conclusions**
CT improved the completion rate of S-1 adjuvant chemotherapy, suggesting that CT is useful as a supportive care.

ePD025

**TIME TRENDS IN G-CSF PRIMARY PROPHYLAXIS AND FEBRILE NEUTROPENIA RISK AMONG WOMEN RECEIVING ADJUVANT CHEMOTHERAPY FOR EARLY-STAGE BREAST CANCER IN THE UNITED STATES**

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**Introduction**
The efficacy of granulocyte colony-stimulating factors (G-CSF) in reducing febrile neutropenia (FN) risk is well established, but real-world data on trends in G-CSF use and its efficacy in recent years are lacking.

**Objectives**
To assess temporal trends in the use of G-CSF primary prophylaxis (PP) and risk of FN among elderly women receiving selected adjuvant chemotherapy regimens for early-stage breast cancer (ESBC).

**Methods**
We identified women, aged ≥66 years, with ESBC who initiated adjuvant chemotherapy using SEER-Medicare data from 2002 to 2012. Adjusted, calendar-year–specific proportions were estimated for use of G-CSF PP and FN risk in the first chemotherapy cycle, overall and stratified by G-CSF PP, using logistic regression models controlling for demographics and observable FN risk factors. Annual probabilities were estimated with covariates set to modal values.

**Results**
Among 11,107 eligible patients, mean age was 71.7 years; 8,235 (74%) received G-CSF in the first course of chemotherapy; 5,819 (52%) received G-CSF PP; and 628 (6%) experienced FN in the first cycle. The adjusted proportion using G-CSF PP increased from 6.4% in 2002 to 71.2% in 2012. During the same period, the adjusted risk of FN in the first cycle increased from 2.0% to 3.0%. Figure 1 presents year-specific adjusted risk of FN by G-CSF status.

**Conclusions**
The use of G-CSF PP increased substantially during the study period. Although channeling of higher risk patients to treatment with G-CSF PP is expected, the adjusted risk of FN among patients treated with G-CSF PP tended to be lower than among those not receiving G-CSF PP.

ePD026

**CHARACTERISATION OF BREAKTHROUGH PAIN IN AN AUSTRALIAN COHORT OF CANCER PATIENTS**

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**Introduction**
Breakthrough cancer pain (BTcP) is an important clinical challenge resulting in significant functional impairment and reduced quality of life.

**Objectives**
To prospectively characterise breakthrough pain in an Australian cohort of cancer patients and to explore patient perspectives on treatment strategies for BTcP control.

**Methods**
Eighty patients receiving inpatient and outpatient treatment from palliative care services of two acute hospitals were recruited into the study. Using a previously published diagnostic algorithm, patients with BTcP completed a questionnaire assessing BTcP characteristics; impact on daily activities; and, opinions on current and potential BTcP treatments.

**Results**
Median number of episodes was 3/day with 46% reporting incident pain, particularly volitional pain (80%). Median pain duration was 22.5 mins and time to peak intensity was 10 mins. Most patients (88%) reported pain as moderate/severe in intensity and 76% considered it to be debilitating with general activity, sleep and enjoyment of life most affected. Background and BTcP pain in all patients was treated with an opioid, although a third of patients did not take pain medication each time they experienced BTcP. While satisfaction with current treatments was high, patients considered time and extent of pain relief and minimal toxicity as the most important features for new agents.
Conclusions
This study provides preliminary insights into the BTcP experience among cancer patients in Australia. Further investigations of larger populations will help improve understanding of BTcP management in current practice and identify gaps to achieving optimal cancer pain control.


ePD027

EVIQ CANCER TREATMENTS ONLINE (WWW.EVIQ.ORG.AU) - PROVIDING LEADERSHIP IN THE RIGHT CHOICE OF TREATMENT FOR THE RIGHT PATIENTS
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Introduction
Effective cancer care involves patients receiving appropriate, timely care, based on the best evidence. eviQ is an Australian government, evidence-based, point-of-care, free, online resource. It provides over 600 cancer treatment protocols, including information to support people affected by cancer that is suitable for different levels of health literacy and priority groups. Over 60,000 users from 160 countries have registered with eviQ since its inception in 2009. eviQ welcomes more than 800 new registrations each month, and is fast becoming recognised internationally.

Objectives
To improve cancer outcomes by supporting clinicians to deliver evidence-based cancer treatment and care at the right time and place as part of a rapidly learning quality cancer system.

Methods
Through the leadership and expertise of multidisciplinary cancer clinicians, content is identified and developed based on the highest available evidence. A strict data governance framework ensures that scope, quality, currency and editorial independence are maintained and content remains free from commercial sponsorship and influence.

Results
eviQ features include:
- Quality cancer treatment information
- Treatment protocols that comply with the WHO Model List of Essential Medicines (EML)
- Patient Information
- Online education modules
- Opioid conversion calculator
- Culturally appropriate information
Ø Translated patient information sheets
Ø Resource developed for Aboriginal Health Workers

Conclusions
eviQ is a major driver for the uptake of evidence-based information and is highly trusted by clinicians, patients and policy makers. eviQ has the ability to lessen the impact of cancer globally by partnering with organisations that are influencing international cancer control.

A SINGLE-DOSE BIOEQUIVALENCE STUDY OF ROLAPITANT FOLLOWING ORAL AND INTRAVENOUS ADMINISTRATION IN HEALTHY VOLUNTEERS
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Introduction
Rolapitant (VARUBI®) is a selective, long-acting NK-1 receptor antagonist for the prevention of chemotherapy-induced nausea and vomiting (CINV). The oral formulation was recently approved in the US and the intravenous (IV) formulation is currently under clinical development.

Objectives
To assess the bioequivalence, safety, and tolerability of a single 180-mg dose of rolapitant oral (4 × 45 mg capsules) and a single 166.5-mg dose of rolapitant IV in healthy volunteers.

Methods
This was an open-label, randomized, single-dose bioequivalence study of rolapitant oral and rolapitant IV in 138 healthy subjects. Blood samples were collected before dosing, and at specified time-points up to 912 hours post dosing. Safety was assessed for all dosed subjects.

Results
The 90% confidence intervals (CI) of the geometric least-squares mean ratio (GMR) fell within pre-specified equivalence bounds of 0.80–1.25 for all area under the curve (AUC) parameters, demonstrating bioequivalence between 166.5 mg rolapitant IV and 180 mg rolapitant oral. The Cmax values were higher following IV than following oral administration of rolapitant, with a Cmax GMR of 1.90 (IV over oral). Results from rolapitant’s major metabolite (M19) also met bioequivalence criteria. The 90% CIs of GMR fell within pre-specified equivalence bounds of 0.80–1.25 for all M19 AUC and Cmax parameters. There were no severe or serious treatment-emergent adverse events in this study.

Conclusions
A single 166.5-mg dose of rolapitant IV as a 30-minute infusion was bioequivalent to a single 180-mg dose of rolapitant oral based on systemic exposure, with 90% CIs of rolapitant AUC ratios contained within 0.80–1.25.

ePD029

THE MULTICENTER, PROSPECTIVE OBSERVATIONAL STUDY ON PROPHYLAXIS OF LOW EMETIC CHEMOTHERAPY–INDUCED NAUSEA AND VOMITING
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Introduction
The incidence of chemotherapy-induced nausea and vomiting (CINV) events among patients receiving low emetic chemotherapy (LEC) is not well established.

Objectives
The aim of the study is to investigate the risk factors predicting CINV and the incidence of CINV in cancer patients in the first cycle of LEC.

Methods
Between September 2013 and November 2014, 222 patients treated with LEC were enrolled in this study. The participants completed a daily patient diary for 5 days on the first cycle of LEC, describing the daily occurrence of CINV (yes/no), severity of nausea (0–100 mm, visual analogue scale [VAS]), and amount of food intake (VAS).

Results
A total of 215 patients were found assessable in this study. The incidences of overall CINV (30.3% vs. 23.0%; P = 0.23), acute CINV (14.6% vs. 8.7%; P = 0.18), and delayed CINV (24.7% vs. 19.8%; P = 0.39) were not significantly different between the guideline-consistent CINV prophylaxis cohort (n = 89) and the guideline-inconsistent CINV prophylaxis cohort (n = 126). The multivariate logistic regression model for overall CINV demonstrated that the independent risk factors were a history of nausea and ECOG performance status score ≥ 1. The mean VAS scores per day for the severity of nausea and decrease of food intake were <25 mm throughout the whole observation period.

Conclusions
CINV in patients who were to receive LEC seems to be well controlled with guideline-consistent antiemetic therapy. However, we should be considering additional antiemetic treatment for the patients with risk factors listed above.

cPD030
PATTERNS AND SEVERITY OF CHEMOTHERAPY-INDUCED NAUSEA (CIN) IN PATIENTS WITH VARIOUS CANCERS ASSOCIATED WITH HIGHLY TO MODERATELY EMETOGENIC CHEMOTHERAPY (HEC AND MEC).
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Introduction
Chemotherapy-induced nausea and vomiting (CINV) is now well controlled thanks to novel antiemetic therapy, but the incidence of nausea remained still high in patients receiving either HEC or MEC.

Objectives
The aim of the study is to investigate patterns and severity of CIN in cancer patients who are to receive chemotherapy for the first time.

Methods
A 7-day diary for CINV was provided to the patient prior to chemotherapy to record daily occurrence and severity of CINV. CIN was measured using visual analog scales (VAS) of 10cm length scales.

Results
A total of 2068 patients were registered and 1910 patients were analyzed. A mean age was 62 (range :19-87), 873 males and 1037 females. MEC was given to 715 as was HEC to 1195 patients. Underlying diseases were esophageal (192 patients), gastric (152), colorectal (90), hepato-biliary-pancreatic (100), lung (426) and breast cancer (429). Comparing patients with various cancers treated with similar emetogenic regimens, we could find that there are several patterns of CIN severity. Firstly, temporal profiles of CIN severity of esophageal, gastric and lung cancers were similar, having daily increased delayed nausea up to Day 7th. The reason of this phenomenon seems due to a single high dose of CDDP. Colorectal and hepato-biliary-pancreatic cancer had a similar mild CIN pattern over 7days, probably due to mild emetogenic nature of oxaliplatin and moderate dose of CDDP.

Conclusions
Delayed CIN remained to be high and appeared to have several CIN patterns.

cPD031
CARDIOVASCULAR DISEASE (CVD) RISK FACTORS AND HEALTH BEHAVIORS AFTER CISPLATIN-BASED CHEMOTHERAPY: A MULTI-INSTITUTIONAL STUDY OF TESTICULAR CANCER SURVIVORS (TCS) IN THE PLATINUM STUDY
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Introduction
Testicular cancer has an eighty percent cure rate in metastatic disease. TCS are at increased risk of CVD. Few clinical studies have comprehensively evaluated CVD risk factors through physical exams, lipid panels, and health behaviors in North American TCS.

Objectives

Methods
Eligibility: <50 years at diagnosis, with only first line cisplatin based chemotherapy (1990-2015). Physical exams, fasting lipid panels, comorbidity and health behavior questionnaires completed. Age, race, and educational status-matched controls (1:1) chosen from the general population using 2011-2012 National Health and Nutrition Examination Survey. Odds ratios (OR) of outcomes among TCS vs. controls were estimated using logistic regression models.

Results
680 enrolled. Median age at diagnosis - 31 (range, 15-49), at evaluation -39 (range, 19-68). Median time since treatment - 4 years (range, 1-25). Compared to normative controls, TCS more likely overweight, have total cholesterol ≥240 mg/dL, LDL ≥160 mg/dL, report alcohol use >2 days/week, engage in vigorous or moderate physical activity, less likely to have waist circumference >40 inches, or smoke; TCS were about 3 times more likely to report good to excellent health compared to controls (P<0.05). No significant differences were seen comparing HDL, triglycerides, or self-reported hypertension (P>0.05).

Conclusions
North American TCS appear more likely to exercise and not smoke compared to controls, a greater proportion are overweight, have higher fasting total cholesterol and LDL levels. Health care providers should screen TCS for CVD risk factors, and encourage practices consistent with healthy lifestyles.

ePD032
SEXUAL HEALTH CARE ATTITUDE AND PRACTICES FOR CANCER PATIENTS AMONG CLINICAL NURSES AND PHYSICIANS
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Introduction
Sexual health is a vital component of quality of life and overall health in oncology patients. Health care professionals have a responsibility to ensure that patients’ sexual health needs are met or that individuals who require help are referred to appropriate services. Due to their frequent contact with patients with cancer, they play an important role in addressing the patients’ sexual health care (SHC) needs.

Objectives
To investigate the sexual health care attitude toward and practices for cancer patients among clinical nurses and physicians.

Methods
Seventy full-time clinical nurses and thirty physicians were recruited from two tertiary hospitals in South Korea. The Sexual Health Care Scale-Attitude (SHCS-A) was used to assess attitudes toward SHC for oncology patients and the Sexual Health Care Scale-Practice (SHCS-P) was used to evaluate their SHC practices. Differences in attitude and practices among the nurses and physicians were analyzed using an independent samples t-test.

Results
Nurses had a higher attitude score than physicians. In addition, nurses at higher official positions had a higher attitude score than staff nurses. However, there was no significant difference in scores with regard to sexual health care practices.

Conclusions
Clinical nurses maintain a relatively open and positive attitude toward sexuality as compared to physicians. The results provide empirical data for evidence-based practice and can inform the development of educational programs for health care professionals.

ePD033
MOBILE GAME FOR MANAGEMENT IN METASTATIC BREAST CANCER PATIENTS RECEIVING CYTOTOXIC CHEMOTHERAPY
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Introduction
Although mobile games were blamed for provoking aggressions and physical harms, recent studies suggested well-designed pro-social games may enhance sociality and brain activity.

Objectives
A smartphone-based multiplayer mobile game, called ILOVEBREAST (CLGAMESS, Seoul, Korea), was invented in purpose to improve self-management and reduce side effects related with chemotherapeutic drugs.

Methods
We hypothesized that a 3-week program with the online social networking game would be helpful in patients who are receiving chemotherapy for metastatic breast cancer.

Results
A total of 82 patients with pathologically proven clinical stage IV metastatic breast cancer were enrolled in a single tertiary center between 2013 and 2014. The patients were randomly assigned to the game group or the education group in a 1:1 ratio. The game group experienced lower rates of chemotherapy-induced side effects than the education group did: fatigue (50% vs. 77.5%, p<0.01), numbness (0% vs. 62.5%, p<0.01), stomatitis (0% vs. 7.5%, p<0.01), hair loss...
Conclusions

The smartphone-based multiplayer mobile game reduced chemotherapy-induced side effects and the level of anxiety, and enhanced quality-of-life compared to the conventional measures based on education. This study suggests that a carefully designed social network-based mobile game may help patients who receive cytotoxic chemotherapy.

ePD034

EFFECT OF EXPRESSIVE WRITING INTERVENTION ON HEALTH OUTCOMES IN BREAST CANCER PATIENTS: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

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Introduction
Numerous randomized controlled trials (RCTs) have arrived at conflicting conclusions on expressive writing (EW) as an intervention for breast cancer (BC) patients, but there has been no meta-analysis of these studies to assess the effectiveness of EW in BC population.

Objectives
To test the hypothesis that EW might be a promising clinical intervention to improve the physical and psychological health in BC patients.

Methods
PubMed, Web of Science, The Cochrane Library, EMBASE, and CINAHL and the www.clinicaltrial.gov database on ongoing clinical trials were searched to identify all the RCTs investigating efficacy of EW on the physical and psychological health in BC patients.

Results
Of the 5232 titles screened, we identified 11 RCTs with a total of 1178 participants. The pooled results showed EW significantly reduced negative somatic symptoms in BC patients in the ≤3-month follow-up group (Mean Difference (MD), -11.16, 95% CI , -15.61 to -6.71, P<0.00001). Subgroups analyses showed a significant effect of EW using either an emotional prompt or a benefit-finding prompt on reducing negative somatic symptoms in BC patients (P<0.00001), but no significant difference between the two prompts (P=0.40). There was no significant effect of EW on physical health in the >3-month follow-up group. There were no significant differences regarding psychological health indexes between EW intervention and control groups at either of the follow-up time-points or in any of the prompt sub-groups (P>0.05).

Conclusions
EW intervention may have a significantly positive impact on the physical health but not the psychological health in BC patients, but this benefit may not last long.

cPD035

HOW DO I DO THAT AGAIN? VODCASTS FOR PATIENTS WITH FEEDING TUBES AND SWALLOWING DIFFICULTIES

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Introduction
Patients undergoing cancer treatment receive a broad range of information from many health professionals which can quickly become overwhelming. Patients and carers find it difficult to process and remember information provided. Web-based educational tools are becoming more widely used as they allow their audience to watch when, where and how they want.

Objectives
This multidisciplinary project aims to develop a series of Australian specific visual instructional modules (vodcasts) for patients with feeding tubes or swallowing difficulties.

Methods
Vodcast topics were determined through clinician, patient and carer focus groups. Patients were asked to describe relevant education received and their level of satisfaction, what gaps existed, and what vodcast topics would be most beneficial for future patients. Vodcasts were designed based on focus group themes, produced by a professional media company and planned for implementation into clinical practice at local and national health services.

Results
Patient recollection of provided education was poor. Patients and carers acknowledged information overload and inability to recall/process education provided. Confirmed vodcast topics included: how to administer a syringe bolus via gastrostomy, how to administer gravity bolus via nasogastric tube, administration of medications via feeding tubes, laryngectomy care and thickening fluids. The vodcasts are viewable online on the EviQ website (www.eviq.org.au) and on USB or DVD.

Conclusions
Evaluation will be conducted at two time-points in 2016-2017. It is intended that vodcasts will increase patient safety/confidence, be an adjunct to face-to-face clinician education, provide an avenue for troubleshooting for patients/carers and promote best clinical practice.

ePD036

IS COGNITION REPORTED BY CANCER PATIENTS DIFFERENT FROM THAT REPORTED BY PATIENTS WITH NEUROLOGICAL CONDITIONS?

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Introduction
Cancer survivors report concerns about cognitive changes following treatment, which compromise quality of life.

Objectives
This study aims to understand whether cognition reported by cancer patients differs from that reported by patients with neurological conditions.

Methods
Sample included 509 cancer (50% male; mean age=61 yrs), 101 stroke (55% male; mean age=65 yrs), 80 amyotrophic lateral sclerosis (ALS; 65% male; mean age=59 yrs), 161 multiple sclerosis (MS; 14% male; mean age=49 yrs), 120 Parkinson’s disease (PD; 62% male; mean age=65 yrs), and 119 epilepsy patients (51% male; mean age=47 yrs).

Cancer patients completed PROMIS Cognition and others completed Neuro-QoL cognition. We equated both cognition measures using Item Response Theory (IRT) techniques, reporting scores on the PROMIS general population based T-score metric (norm=50, SD=10). We also correlated cognition scores with PROMIS Mental (MH) and Physical Health (PH).

Results
Wide ranges of cognition were reported across conditions: mean (range) T-score = 53.1 (17.8-69.3), 48.7 (27.9-69.5), 50.2 (31.9-69.5), 58.2 (42.1-69.5), 49.1 (19.6-69.5), and 47.5 (20.4-69.5) for Cancer, MS, PD, ALS, stroke and epilepsy, respectively. Significant between-condition differences were found, F=22.3 p<0.0001. Cancer patients reported significantly (p<0.05) worse cognition than ALS but better than all other groups. Cognition T-scores were significantly (p<0.001) correlated with MH and PH for all patient groups except ALS.

Conclusions
We implemented IRT techniques to understand cognition concerns of cancer patients compared to other patients. Though cancer patients did not report worse cognition, further research is warranted to understand contributing factors to self-reported cognition, especially in groups reporting worse cognition.

ePD037
FEAR OF CANCER RECURRENT AND PSYCHOLOGICAL WELL-BEING IN WOMEN WITH BREAST CANCER: THE ROLE OF CAUSAL CANCER ATTRIBUTIONS AND OPTIMISM
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Introduction
Causal attributions for cancer are part of the schema that defines how an individual with cancer “makes sense” of their illness experience. It is of interest to understand if causal attributions contribute to any variation in fear of cancer recurrence (FCR) and psychological well-being observed among breast cancer survivors.

Objectives
This study aims to examine the association between cancer causal attribution, FCR and psychological well-being and the possible moderating effect of optimism among women with a previous diagnosis of breast cancer.

Methods
Participants (N = 314) completed an online self-report assessment of causal attributions for their own breast cancer, FCR, psychological well-being, and optimism. Simultaneous multiple regression analyses were conducted to explore the overall contribution of causal attributions to FCR and psychological well-being separately. Hierarchical multiple regression analyses were also utilized to examine the potential moderating influence of dispositional optimism on the relationship between causal attributions and FCR and psychological well-being.

Results
Causal attributions of environmental exposures, family history, and stress were significantly associated with higher FCR. The attribution of stress was also significantly associated with lower psychological well-being. Optimism did not moderate the relationship between causal attributions and FCR or well-being.

Conclusions
The observed relationships between causal attributions for breast cancer and FCR and psychological well-being suggest that the inclusion of causal attributions in screening for FCR is potentially important. Health professionals may need to provide greater psychological support to women who attribute their cancer to non-modifiable causes and consequently continue to experience distress.

ePD038
TREATING FATIGUE IN COLORECTAL CANCER (CC) PATIENTS
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Introduction
Moderate to severe fatigue affects up to 40% of cc patients even years after completion of adjuvant therapy.

Objectives
The aim was to evaluate the impact of a 12 week group-based program that includes cognitive therapy and didactic sessions to help participants manage stress, improve diet and exercise patterns and make appropriate behavioral changes.

Methods
Program's impact on participant fatigue scores was evaluated.Criteria were chemotherapy completion at least 6 months previously and baseline SF-36 Health Survey vitality subscale score <50. 70 participants were enrolled,62 completed the program.All 70 were retained in the analysis.Change in fatigue score was the primary outcome and was measured by three instruments: The Piper Fatigue Scale (PFS), the SF-36 vitality subscale and a visual analogue scale. Outcomes were measured at program's end and 3 and 6 months following program completion.Longitudinal analysis of data was done using generalized estimating equations.
Results
Adjuvant therapy included chemotherapy for 78% of the patients and radiotherapy for 39%. The PFS improved from 6.0 at baseline to 4.2 (p < 0.0001) at program’s end and continued to improve to 3.6 at the 6-month follow-up (p < 0.0001). The vitality subscale similarly improved from 35.0 baseline to 47.8 (p < 0.0001) at its end and 52.9 (p < 0.0001) at the 6-month follow-up. Similar patterns were noted with fatigue and mood visual scales. Overall self-rated health improved from baseline to the 6-month follow up program (p < 0.0001). After adjusting for age, sleep, physical activity, diet and smoking status, longitudinal analysis showed significant reduction in fatigue measured by PFS (p < 0.0001), SF-36 vitality (p < 0.0001) and fatigue visual scale (p < 0.0001).

Conclusions
These suggest an overall 42% improvement in fatigue among survivors with severe fatigue that persisted 6 months after the program.

ePD039

EFFECTS OF INDIVIDUAL EXERCISE EDUCATION ON DECREASING FATIGUE AND PSYCHOLOGICAL DISTRESS IN PATIENTS IN WITH COLORECTAL CANCER AFTER SURGERY: A CLINICAL RANDOMIZED CONTROL TRIAL

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Introduction
Evidences have shown that exercise could decrease colon survivors’ mortality; however, most cancer survivors did not maintain regular exercise.

Objectives
The aim of this study was to develop and test a home-based exercise program on decreasing fatigue and psychological distress for patients with colorectal cancer after surgery.

Methods
Stratified randomization control trial by previous exercise behavior was used to recruit patients with colorectal cancer after surgery from a medical center in Taipei. The patients in the control group maintained their daily activity and those in the experimental group received twice individual education program related to exercise before discharge and 12-week moderate intensity exercise program. Fatigue and psychological were outcome indicators and three time points of data collection were on the day before discharge, and the 13, 25 weeks entering into the study to explore the effects of the program. Generalized estimating equations to examine the effect of intervention program on fatigue, and psychological distress.

Results
One hundred and twenty-eight patients were recruited in this study including interventional group (n = 63) and control group (n = 65). Age was the only demographic differences in the two groups. After controlling the age, the level of depression has shown significant decreased by time compared to the control group after 6 months of intervention.

Conclusions
Home-based individual consulting exercise program could decrease the level of depression and healthcare providers should encourage cancer patients to exercise as early as possible after receiving surgery. Larger sample size is suggested to confirm the results for the future studies.

ePD040

EVALUATION OF AN EDUCATION PROGRAM TO FACILITATE PATIENT ADHERENCE, TOXICITY MONITORING AND PROMOTE SAFETY AND WELL-BEING IN THE SELF ADMINISTRATION OF ORAL CHEMOTHERAPY

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Introduction
The use of oral chemotherapy as a treatment for cancer is increasing (Hede 2009), with patients being expected to self-administer them (Goodin et al. 2007). While self-administration of oral chemotherapy in the home setting offers advantages to patients (Simchowitz et al. 2010), it poses significant challenges for health care professionals, many of which revolve around adherence, toxicity monitoring and safety issues (Halfdanarson & Jotoi 2010). In this study, patients prescribed oral chemotherapy, receive education and support from the Chemotherapy Nurse Coordinator (CNC) at the Olivia Newton-John Cancer and Wellness Centre.

Objectives
To evaluate an education program promoting patient knowledge and understanding of oral chemotherapy that may facilitate patient adherence, toxicity monitoring and promote safety of oral chemotherapy in the home setting.

Methods
Cancer patients (N = 15) prescribed oral chemotherapy received education using a teaching tool developed by The Multinational Association of Supportive Care in Cancer (MASCC)™. Supportive care needs were screened using the Distress Thermometer (DT). Patient’s pre and post knowledge and understanding of oral chemotherapy that may facilitate patient adherence, toxicity monitoring and promote safety of oral chemotherapy in the home setting.

Results
Data were analysed using descriptive statistics. Tailored Nurse-Led education facilitated knowledge and understanding around key issues pertaining to oral chemotherapy. Limitations are small sample size.

Conclusions
Nurse-Led education programs may facilitate medication adherence, toxicity management and enhance patient’s wellbeing.
CHROMOTHERAPY-INDUCED NAUSEA AND VOMITING (CINV) IN PATIENTS AGED 65+ WITH ETOPOSIDE OR DOCETAXEL: POOLED SAFETY DATA ANALYSIS FROM 4 PIVOTAL STUDIES

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Introduction

Although older patients have less CINV than younger ones, they still need adequate preventative treatments with a good safety profile.

Objectives

To evaluate the efficacy and safety of the long-acting neurokinin-1 receptor antagonist rolapitant according to patient age (<65 vs ≥65 years).

Methods

In 3 double-blind studies, patients receiving highly emetogenic or moderately emetogenic chemotherapy (HEC, MEC) were randomized 1:1 to 180mg oral rolapitant or placebo before chemotherapy, always with a 5-hydroxytryptamine type 3 receptor antagonist and dexamethasone. Endpoints included complete response (CR; no emesis, no use of rescue medication) in delayed (>24–120 h), acute (<24 h), and overall (0–120 h) phases.

Results

In both MEC and pooled HEC studies, CR rates in all phases favored rolapitant over control (odds ratio >1) in both age groups. Statistical significance (P<0.05) was observed for all patient subsets in the overall phase (MEC: 67.5% vs 56.6% (<65), 71.9% vs 60.7% (≥65); HECs: 68.0% vs 58.5% (<65), 71.0% vs 58.5% (≥65)), and in the delayed phase in both age groups (MEC) and in patients <65 years (pooled HECs). Time-to-first emesis or use of rescue medication was longer with rolapitant than control in all subsets of patients. Across all 3 trials, the percentage of patients reporting ≥1 treatment-related adverse event was low and similar with rolapitant and control in patients <65 years (6.5% vs 5.3%) and ≥65 years (7.4% vs 8.2%).

Conclusions

Rolapitant was well-tolerated and increased protection against CINV in patients aged <65 and ≥65 years who underwent HEC or MEC.

eP002

NO SIGNALS OF INCREASED TOXICITY AFTER CONCOMITANT ADMINISTRATION OF NEPA WITH ETOPOSIDE OR DOCETAXEL: POOLED SAFETY DATA ANALYSIS FROM 4 PIVOTAL STUDIES

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Introduction

Etoposide and docetaxel, common chemotherapeutic agents, are mostly metabolized by CYP3A4 and CYP3A5 enzymes. The antiemetic agent NEPA is an oral fixed combination of the NK1-receptor antagonist (RA) netupitant (300 mg) and the 5-HT3–RA palonosetron (0.50 mg); netupitant is a moderate CYP3A4 inhibitor. A drug-drug interaction study showed mildly increased etoposide and docetaxel exposure (≈2-fold) when administered with NEPA. The clinical relevance of these findings was assessed.

Objectives

Evaluate the potential for increased toxicities associated with etoposide/docetaxel after concomitant administration of NEPA compared to oral-palonosetron (oPALO) or intravenous-palonosetron (ivPALO).

Methods

The integrated safety analysis included data from cancer patients receiving NEPA (N=1,169), oPALO (N=1,231), and ivPALO (N=739) in 4 pivotal studies. Among NEPA- and oPALO-treated patients, 1,033 and 725, respectively, enrolled in multiple-cycle studies. Frequency of serious adverse events (SAEs) and of selected chemotherapy-associated treatment-emergent AEs (TEAEs) was analyzed.

Results

The total number of chemotherapy cycles received by NEPA-, oPALO-, and ivPALO-treated patients was 300, 88, and 45 (topeoside-subpopulation) or 196, 77, and 13 (docetaxel-subpopulation), respectively. Among etoposide-receiving patients, SAE and TEAE frequency was comparable between the 3 treatment groups. Among docetaxel-receiving patients, SAE frequency was 20.4%, 13.5%, and 30.8% for NEPA-, oPALO-, and ivPALO-treated patients, respectively, TEAE frequency was 20.4%, 13.5%, and 15.4% for NEPA-, oPALO-, and ivPALO-treated patients, respectively, consistent with the greater number of chemotherapy cycles administered in the NEPA group.

Table. Frequency of SAEs and TEAEs of interest in etoposide- and docetaxel-receiving patients

<table>
<thead>
<tr>
<th></th>
<th>Etoposide Subpopulation</th>
<th>Docetaxel Subpopulation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NEPA</td>
<td>oPALO</td>
</tr>
<tr>
<td>Number of patients</td>
<td>109</td>
<td>99</td>
</tr>
<tr>
<td>Number of cycles</td>
<td>293</td>
<td>180</td>
</tr>
<tr>
<td>Number (% of patients) with ≥1 SAE</td>
<td>8 (7.3%)</td>
<td>7 (3.6%)</td>
</tr>
<tr>
<td>Number (% of patients) with ≥1 TEAE</td>
<td>17 (15.7%)</td>
<td>11 (5.6%)</td>
</tr>
</tbody>
</table>
| Conclusions

Pooled safety data from 4 pivotal studies showed no signals of increased toxicity after etoposide or docetaxel coadministration with NEPA.

eP003

AVAILABILITY OF AND ACCESS TO MEDICATIONS NEEDED FOR THE IMPLEMENTATION OF MASCC/ESMO ANTIEMETIC GUIDELINES IN GOVERNMENTAL HOSPITALS IN SERBIA

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1

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Introduction

Guideline-consistent antiemetic therapy reduces the incidence of chemotherapy-induced nausea and vomiting (CINV) after highly or moderately emetogenic chemotherapy (HEC or MEC). Clinical uptake of guidelines depends on availability and accessibility of medications recommended by the guideline.

Objectives

To evaluate the availability and accessibility of medications recommended by the MASCC/ESMO antiemetic guidelines (www.mascc.org) for patients treated in governmental hospitals in Serbia.

Methods

Availability was evaluated by the formulary availability and marketing authorization in Serbia; accessibility was assessed by the Republic Health Insurance Fund (RHIF) coverage: medications not reimbursed by RHIF are not accessible for governmental hospitals. Off-label use of medications is not recognized as legitimate in Serbia and not covered by RHIF; consequently medications intended to be used “off-label” are not accessible.

Results

Ondansetron, granisetron and metoclopramide are available and accessible for the prevention and control of CINV. Barriers for the availability and accessibility of other medications recommended in Table 1. Both aprepitant/fosaprepitant and palonosetron are not available for the prevention of CINV after MEC.

Conclusions

Barriers to accessibility of antiemetics in Serbia create a significant problem for the implementation of MASCC/ESMO recommendations for the prevention of CINV after MEC (both AC and non-AC) as well as for the control of refractory CINV.

Ginger in the Management of Chemotherapy Induced Nausea and Vomiting (CINV), in Patients Receiving High Dose Cisplatin: a Multicenter, Randomized, Double-Blind, Placebo-Controlled Study


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8Fondazione IRCCS Istituto Nazionale dei Tumori, Medical Oncology, Milano, Italy
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10Latis, Scientific direction, Genova, Italy
11Latis, Statistical Department, Genova, Italy

Introduction

The activity of ginger in CINV has been suggested, but design inadequacies, heterogeneity of the population, poor quality of tested products, and lack of dose finding studies limit the possibility to offer generalizable results.

Objectives

To perform a randomized, double-blind, placebo-controlled, multicenter study in patients planned to receive ≥2 chemotherapy cycles with high dose (>50 mg/m²) cisplatin.

Methods

Patients received ginger (G) 160 mg/day (with standardized formulation) or placebo (P) in addition to the standard antiemetic prophylaxis for CINV, starting from the day after cisplatin administration. Concomitant radiation was allowed.

CINV was assessed through daily visual-analogue scale and FLIE questionnaires.

The main objective was protection from delayed nausea; secondary endpoints included intercycle nausea, and nausea anticipatory symptoms.

Results

The trial enrolled 251 patients (125 G, 126 P), mainly with lung (49%) or head and neck cancer (HNC, 35%); 154 (61%) subjects completed the study treatment. No differences were reported in terms of safety profile or compliance. The incidence of delayed nausea did not differ between the 2 arms in the 1st cycle (67%G vs 66%P) and 2nd cycle (72% vs 66%).

A benefit of ginger over placebo was observed in FLIE nausea score differences (day 6-day 1) in females (p=0.048) and HNC patients (p=0.038).

Conclusions

In patients treated with high dose cisplatin, the daily addition of ginger, even if safe, did not result in a significant...
protective effect on CINV. The favorable effect observed on nausea in subgroups at particular risk of nausea (females; HNC) deserves specific investigation.

eP005
CHEMOTHERAPY INDUCED NAUSEA AND VOMITING IN GYNECOLOGICAL CANCER PATIENTS: "TREATMENT-RELATED" AND "PATIENT-RELATED" RISK FACTORS
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Introduction
Chemotherapy is the treatment of choice for many gynecological tumors; however, cytotoxic drugs lead to a wide range of side effects. Chemotherapy induced nausea and vomiting (CINV) are two of the most common and distressing symptoms. Objectives
To investigate the potential role played by "treatment-related" and "patient-related" risk factors in influencing the onset of acute and delayed nausea and vomiting after the first chemotherapeutic infusion. Methods
Ninety-four patients affected by gynaecological cancer and undergoing chemotherapy took part in the study. The following instruments were administered: the STAI-Y (State-Trait Anxiety Inventory) to measure state and trait anxiety, the MAT (MASC Aniemia Tool) to measure the intensity and frequency of nausea and vomiting and a self-report questionnaire to collect socio-demographic and clinical data. Regression analyses were performed to establish risk factors associated with CINV. Results
The results suggest that working status (being involved in a working activity during treatment) was an important protective factor for both acute and delayed nausea. Furthermore, having experienced nausea during previous chemotherapy treatments was found to be a risk factor for both these side effects. Younger age and the habitual use of alcohol were risk factors for acute nausea, while a higher level of state anxiety was a risk factor for delayed one. Emetogenic potential was associated only with the presence of delayed vomiting. Conclusions
These findings suggest that personal risk factors contribute to individual differences in the frequency and severity of CINV. Personal factors should be taken into consideration by the multidisciplinary treating team.

Conclusions
Olanzapine is more efficacious than other standard antiemetics for the rescue of CINV and its inclusion improves control in the prevention setting. Given the possible reduction in side-effects, the use of a 5 mg dose of olanzapine should be considered. Future RCTs should further compare the 5 mg versus the 10 mg dosages and report on the efficacy and percentage of patients developing side effects.

eP007
OLANZAPINE FOR THE PROPHYLAXIS AND RESCUE OF CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING (CINV): A SYSTEMATIC REVIEW AND META-ANALYSIS
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Introduction
Olanzapine is a potent antipsychotic medication that interacts with a variety of receptors. It has been used in trials for the prophylaxis and rescue of chemotherapy-induced nausea and vomiting (CINV).

Objectives
This study systematically investigates the efficacy of olanzapine in relation to other antiemetics for the prophylaxis and rescue treatment of CINV.

Methods
A literature search of Ovid MEDLINE, EMBASE, and CENTRAL was conducted to identify randomized controlled trials (RCTs) comparing olanzapine to other standard antiemetics for either prevention or rescue. The primary endpoints were the percentage of patients achieving no emesis or no nausea, in the acute, delayed, and overall phases.

Results
Ten RCTs in the preventative setting and three RCTs in the breakthrough setting were identified. Subgroup analysis demonstrated a similar degree of benefit from a 5 mg and 10 mg dose of olanzapine for the no emesis endpoint in the overall phase. In the prophylaxis setting, olanzapine was statistically superior in 3 of 6 endpoints and clinically superior in 4 of 6 endpoints. In the breakthrough setting, olanzapine was statistically and clinically superior in the only endpoint analyzed: no emesis.

Conclusions
Olanzapine is more efficacious than other standard antiemetics for the rescue of CINV and its inclusion improves control in the prevention setting. Given the possible reduction in side-effects, the use of a 5 mg dose of olanzapine should be considered. Future RCTs should further compare the 5 mg versus the 10 mg dosages and report on the efficacy and percentage of patients developing side effects.
RESCUE OF CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING (CINV): A RETROSPECTIVE STUDY

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Introduction
While the efficacy of olanzapine in the prophylaxis of CINV has been documented, the literature on the use of olanzapine as a rescue medication for breakthrough CINV has been scarce.

Objectives
This study retrospectively evaluated the safety and efficacy of olanzapine in the prophylactic setting and was also examined in a smaller cohort.

Methods
Electronic charts of adult patients aged > 17 years receiving a prescription for olanzapine from the Odette Cancer Centre Pharmacy at Sunnybrook Hospital between January 2013 and June 2015 were reviewed retrospectively. Inclusion criteria required receiving one or more doses of olanzapine for the rescue or prophylaxis of CINV and documentation of the outcome.

Results
A total of 154 patients and 193 treatment cycles were included in the breakthrough setting, while a total of 16 patients and 20 treatment cycles were included in the prophylaxis setting. In the breakthrough setting, 88% of cases experienced improved nausea, while 21% of cases reported improved vomiting. In the prophylactic setting, 100% of cases experienced improved nausea, while 65% achieved improved vomiting. 43% of cases in the breakthrough setting and 65% of cases in the prophylactic setting experienced sedation.

Conclusions
Olanzapine is effective in improving CINV in both the prophylactic and breakthrough settings. The safety, efficacy, and appropriate dosage of olanzapine for the rescue of breakthrough CINV should be prospectively evaluated in a randomized controlled trial.

eP008

LATEST ADVANCES IN THE MANAGEMENT OF RADIATION-INDUCED PAIN FLARE, NAUSEA AND VOMITING

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Introduction
Palliative radiation (RT) is an effective treatment for symptomatic bone metastases. However, pain flare, nausea and vomiting are common adverse effects associated with this treatment.

Objectives
Our report documents the incidence, clinical importance, and advances in the management of these two adverse-effects.

Methods
A literature search was conducted in Ovid Medline, OldMedline, Embase, Embase Classic, and Cochrane Central Register of Controlled Trials using relevant subject headings and keywords such as: “nausea,” “vomiting,” “pain flare,” and “radiation.”

Results
Hird et al, reported the incidence of pain flare following palliative RT to be 40%. In a separate study, Hird et al. reported that when pain flare occurred, 85% of patients preferred prophylaxis for the management of pain flare rather than an increase in analgesic use. In addition, in two pilot studies and one phase II trial, dexamethasone was shown to be feasible as a prophylactic agent against pain flare. Subsequently, Dennis et al. showed that despite prophylaxis with 5-HT3 receptor antagonists, RINV was common, especially in the delayed phase. Recently, Popovic et al. found that Palonosetron is safer and more efficacious than other 5-HT3 receptor antagonists. A phase II prospective study of palonosetron in the prophylaxis/rescue of RINV is ongoing in Canada

Conclusions
The current report provides an update on the latest advances on the management of radiation-induced pain flare and RINV. We recommend further research place greater attention on different prophylactic treatments investigated in chemotherapy studies, and to reproduce such studies in a radiation setting in order to assess whether similar findings might apply.

eP009

A SYSTEMATIC REVIEW OF METHODOLOGIES, ENDPOINTS AND OUTCOME MEASURES IN PHASE III RANDOMISED TRIALS OF INTERVENTIONS FOR RADIATION THERAPY-INDUCED NAUSEA AND VOMITING

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Introduction
Trials in radiation therapy-induced nausea and vomiting (RINV) appear to have varied methodologies, endpoints and outcome measures. This hinders implementation of trial results.

Objectives
Analyse design elements in RINV trials.

Methods
Ovid versions of the Cochrane Central Register of Controlled Trials, the Cochrane Database of Systematic Reviews, EMBASE and MEDLINE (to first quarter 2011) were searched for randomised trials of RINV management strategies.

Results
From 599 references, 34 trials were analysed (cumulative n=4529). Twenty-seven trials (79%) involved multiple fraction radiation therapy (RT) and 7 (21%) single fraction RT. Twenty-four trials (71%) evaluated prophylactic interventions and 9 (26%) rescue interventions. Nausea was not defined in any trial but was reported as a stand-alone symptom in 26 trials (76%) and was graded in 20 (59%), with categorical qualitative scales being the most common method. Vomiting was defined in 3 trials (9%), reported as a stand-alone symptom in 17 (47%) and was graded in 7 (21%), with continuous numerical scales being the most common method. Retching was defined in 3 trials (9%), was not reported as a stand-alone symptom in any trial and was graded in 1 (3%). Twenty-one trials (62%) created compound symptom measures that combined individual symptoms. Fifteen trials (44%) reported ‘emetic episodes/events’ but only 9 defined them. Seventeen trials (50%) reported complicated endpoints (e.g., response, control, success) that combined multiple symptom or compound symptom measures, but 7 did not define them comprehensively. Ten trials (29%) defined a primary endpoint a priori.

Conclusions
Methodologies, endpoints and outcome measures varied among 34 randomised trials in RINV.

eP010
DEVELOPMENT OF A PREDICTION TOOL FOR IDENTIFYING PATIENTS AT HIGH RISK FOR CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING (CINV)
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Introduction
Between 20% to 40% of cancer patients receiving chemotherapy fail to achieve complete control of nausea and vomiting (N&V). Besides chemotherapy type, several risk factors for CINV have been identified: young age, anxiety, history of morning sickness or other emesis, and female sex.

Objectives
In this project, the development of a repeated measures cycle based model to predict the risk of ≥ grade 2 CINV (2 or more vomiting episodes) over five days post chemotherapy is described.

Methods
Data from 1198 patients who were enrolled in one of five non-interventional CINV prospective studies were pooled. Generalized estimating equations (GEE) were used in a backwards elimination process with the p value set at ≤ 0.05 to identify the relevant predictive factors. A risk scoring algorithm (range: 0-32) was then derived from the final model coefficients. Finally, a receiver operating characteristic curve (ROC) analysis was done to measure the predictive accuracy of the scoring algorithm.

Results
Over 4197 cycles of chemotherapy, 42.2% of patients experienced ≥ grade 2 CINV. Ten risk factors were identified and included patient age <60, cycle number, disease site, early stage disease, patients expecting to have N&V, history of morning sickness, hours of sleep the night before chemotherapy, and use of platinum or anthracycline based regimens. The ROC analysis indicated good predictive accuracy with an area under the curve of 0.71 (95%CI: 0.69 – 0.73).

Conclusions
The clinical application of this prediction tool should enhance patient care by optimizing the use of the antiemetics in a proactive manner.

eP011
RANDOMIZED, PLACEBO-CONTROLLED, PHASE 3 STUDY OF APREPITANT IN PREVENTING CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING IN CHILDREN: ANALYSIS BY AGE GROUP
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A STUDY TO UNDERSTAND THE BENEFITS OF YOGA IN POST CHEMOTHERAPY PHASE TOWARDS CONTROLLING OF GRADE II AND III NAUSEA AND VOMITING

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Introduction
Chemotherapy-induced nausea and vomiting are the most common side-effects feared by patients. Although significant progress have been made, chemotherapy-induced nausea and vomiting remain an important adverse effect of treatment.

Objectives
The purpose of our study was to evaluate the prevalence of chemotherapy-induced nausea and vomiting in an oncology day unit in France. We described then the management of this side-effect.

Methods
This retrospective mono-centric observational study assessed 65 patients in our oncology day unit. They all were

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4. Acharya Tulsi Regional Cancer Treatment & Research Institute, Yoga teacher, Bikaner, India

Conclusions
Yoga and meditation are helpful along with standard antiemetics. This can be made a part of the management plan for the cancer patients receiving emetogenic chemotherapeutic agents

eP013
CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING: AN ONCOLOGY-DAY UNIT EXPERIENCE.
F. LAI-TIONG1
2. NIMES, France
on chemotherapy for solid tumors and should have had already received one cycle of chemotherapy. Patients were metastatic or treated with a curative intent. During three days, patients were asked if they had experienced nausea and/or vomiting after their last cycle of treatment.

**Results**

65 patients were enrolled. 45 women (69%) and 20 men (31%). The median age was 63 years [27-86]. 20 patients were elderly people. 48 patients were metastatic (74%) and 17 (26%) were on neoadjuvant or adjuvant therapy. 24 people (37%) experienced nausea (20 patients) or vomited (4 patients). Nausea were essentially grade 1 (69%). All patients received anti-emetic therapies. In the 24 patients who suffered from adverse effects, only 6 had corticosteroids, 15 had NK1 receptor inhibitors, 12 received 5-HT3 receptor inhibitors and 12 anti D2 treatments. 9 patients (14%) experienced refractory nausea and vomiting.

**Conclusions**

Even if guidelines exist and despite many therapeutics agents have improved patients’ quality of life in terms of nausea and vomiting, in some cases it seems not to be enough.

**eP014**

**BREAST CANCER PATIENTS’ CINV EXPERIENCE WITH AC CHEMOTHERAPY AND GUIDELINE-CONSISTENT ANTIEMETICS**

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**Introduction**

Inclusion of NK-1 RA for antiemetic prophylaxis after AC (anthracycline + cyclophosphamide) chemotherapy significantly improved the control of chemotherapy-induced nausea and vomiting (CINV). It is of question how patients experience the symptom when guideline recommended antiemetic prophylaxis were fully utilized.

**Objectives**

To describe the incidence and intensity of chemotherapy-induced nausea and vomiting among breast cancer patients with guideline-consistent antiemetics and to determine risk factors for CINV.

**Methods**

A prospective observational descriptive study was conducted. A total of 143 Korean breast cancer patients starting their first adjuvant chemotherapy participated in the study. Items of the MAT were utilized to generate a symptom diary. Descriptive statistics, RMANOVA, Chi-square analyses were conducted to analyze the data.

**Results**

For 5 days after chemotherapy, vomiting did not occur in 79.7% of patients (92.3% in the acute phase and 82.5% in the delayed phase). However, only 17.5% of patients were free from nausea and 35.7% did not experience significant level of nausea. Nausea intensity changed significantly and exceeded a significant level (intensity ≥2.5) starting from D2. History of morningsickness was the only factor related to vomiting occurrence ($X^2=6.93, p=0.01$). Receiving antiemetic regimen which did not include PRN prescription was related to the experience of significant level of nausea ($X^2=6.76, p=0.01$).

**Conclusions**

Vomiting control of breast cancer patients after AC was satisfactory, however, history of morning sickness needs to be considered as a key risk factor for vomiting. Nausea control has room for further improvement. When patients receive guideline recommended antiemetics, providing PRN would improve control of significant level of nausea.

**eP015**

**RETARGETING GOALS FOR CINV MANAGEMENT IS NECESSARY**

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**Introduction**

Corresponding patients’ chemotherapy-induced nausea and vomiting (CINV) experience with clinicians’ understanding about the symptom, and understanding goals for symptom management would contribute advancing symptom management.

**Objectives**

To understand patients’ CINV experience and clinicians’ awareness about the symptom, and to identify goals for symptom management.

**Methods**

A descriptive study was conducted. Cancer patients receiving the first adjuvant HEC or MEC (n=332) and oncology clinicians at two university hospitals (n=73) participated in the study. The MAT items were utilized to generate a symptom diary and survey questions. Descriptive statistics were utilized to analyze the data.

**Results**

Vomiting occurred less than once in both acute and delayed phase (HEC and MEC). However, clinicians estimated two times of acute vomiting and three times of delayed vomiting after HEC. After MEC, one time of acute vomiting and two times of delayed vomiting were estimated. Patients experienced less intense acute (2 out of 10) and delayed nausea (3 out of 10) (HEC and MEC) than clinicians’ expectation after HEC (6 out of 10) and after MEC (4 out of 10). With regards to goals for symptom management, patients aimed for absolute vomiting control, and not experiencing nausea at significant level. In general, patients’ symptom management goals exceeded that of clinicians’. Gaps were demonstrated between patients’ CINV experience and clinicians’ awareness about the symptom, as well as goals for symptom control. In general, clinicians overestimated patients’ CINV experience, and thus having
less tight goals for symptom control. Enhancing clinicians’ understanding about patients’ symptom experience would advance symptom management of CINV.

**eP016**

**ROLAPITANT FOR THE PREVENTION OF NAUSEA IN PATIENTS RECEIVING MODERATELY OR HIGHLY EMETOGENIC CHEMOTHERAPY**

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**Introduction**

Nausea remains an unmet need for patients receiving moderately or highly emetogenic chemotherapy (MEC, HEC).

**Objectives**

To determine the effect of rolapitant (VARUBI®) on nausea in patients receiving either MEC or HEC.

**Methods**

Post hoc analyses of nausea from three randomized, double-blind, active-controlled, phase 3 clinical trials were performed for carboplatin-based MEC (n=401), non-carboplatin-based MEC (n=228), total MEC (n=629), anthracycline/cyclophosphamide (AC)-based chemotherapy (n=703), and cisplatin-based HEC (n=1070). Patients were randomized 1:1 to oral rolapitant 180 mg or placebo ~1–2 h before chemotherapy. All patients received active control: granisetron 2 mg oral or 10 mcg/kg IV and oral dexamethasone 20 mg. Granisetron was continued on days 2 and 3 for patients receiving MEC or AC-based therapy. Patients self-assessed nausea on days 1–6 using a 100-mm visual analog scale (VAS). Percentage of patients with no nausea (NN; maximum VAS <5 mm) or no significant nausea (NSN; maximum VAS <25 mm) was determined for overall, delayed, and acute phases of CINV in cycle 1.

**Results**

Rates of NN in the carboplatin-based MEC and total MEC subgroups were significantly higher (P<0.05) with rolapitant than active control in the delayed and overall phases. In the cisplatin-based HEC subgroup, rates of NN and NSN were significantly higher with rolapitant than active control in the delayed, acute, and overall phases.

**Conclusions**

Rolaipant prevents nausea during all CINV phases in patients receiving cisplatin-based HEC, and during the delayed and overall phases in patients receiving carboplatin-based MEC.

**eP017**

**CHOICE OF STUDY ENDPOINT SIGNIFICANTLY IMPACTS THE RESULTS OF BREAST CANCER TRIALS EVALUATING CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING (CINV)**

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**Introduction**

Multiple endpoints can be used to evaluate chemotherapy-induced nausea and vomiting (CINV). These endpoints reflect the various combinations of vomiting, nausea and rescue antiemetic use in the acute (0-24 hours), delayed (>24-120 hours) and overall (0-120 hours) periods after chemotherapy.

**Objectives**

As the choice of outcome measure could potentially change the interpretation of clinical trial results, we evaluated CINV control rates using different endpoints on a prospective cohort data-set.

**Methods**

Data from 177 breast cancer patients receiving anthracycline and cyclophosphamide-based chemotherapy was used to calculate CINV control rates using the 15 most commonly reported CINV endpoints. As nausea remains such a significant symptom, we explored the frequency at which pharmaceutical and non-pharmaceutical company-funded studies measured nausea control in their primary endpoint.

**Results**

CINV control rates ranged from 12.5%, 95% CI: [7.6 to 17.4%] for Total Control (no vomiting, no nausea and no rescue medication) in the overall period to 77.4%, 95% CI: [71.2 to 83.6%] for No Vomiting in the overall period. Similar differences were found in the acute and delayed periods. Non-pharmaceutical company funded trials were more likely to measure control of nausea in their primary endpoint (9/18, 50%) than pharmaceutical-funded trials (1/12, 8.3%).

**Conclusions**

The choice of trial endpoint has an important impact on reported CINV control rates and could significantly impact on interpretation of the results. Primary endpoints of studies, including those mandated by regulatory bodies, should account for nausea to reflect patient experience. Reporting of endpoints should be more comprehensive to allow for cross-trial comparisons.
Introduction
Rolapitant, a long-acting neurokinin-1 receptor antagonist, protected against CINV in patients receiving highly or moderately emetogenic chemotherapy (HEC or MEC).

Objectives
To assess in a post hoc analysis of 3 pooled studies (2 HEC and 1 MEC) the efficacy and safety of rolapitant in patients with gynecologic (ovarian, uterine, or cervical) cancer.

Methods
In 3 double-blind phase 3 studies, patients were randomized to receive oral rolapitant 180 mg or placebo before administration of HEC or MEC. All patients received a 5-hydroxytryptamine type 3 receptor antagonist and dexamethasone. Endpoints included complete response (CR: no emesis and no use of rescue medication), no emesis, no nausea (maximum visual analogue scale [VAS] <5 mm), and complete protection (CP: no emesis, no use of rescue medication, and no significant nausea [maximum VAS <25 mm]) in the overall (0–120 h), acute (≤24 h), and delayed (>24–120 h) phases.

Results
Of 203 patients with gynecologic cancer, 55% received cisplatin-based HEC and 45% received MEC (98% of whom received carboplatin-based therapy). In the delayed phase, improved rates of CR (79% vs 65%, P=0.018), no emesis (84% vs 71%, P=0.023), no nausea (62% vs 43%, P=0.007), and CP (75% vs 57%, P=0.009) were observed with rolapitant compared with control. Similar improvements were observed in the overall phase. The overall incidence of treatment-emergent adverse events was similar in the rolapitant and control groups (46% vs 54%).

Conclusions
Rolapitant protected against overall and delayed CINV in patients with gynecologic cancer receiving HEC or MEC.

cP019
EFFECTIVENESS OF FOSAPREPITANT VS APREPITANT ALONG WITH STANDARD DOSE DEXAMETHASONE AND SEROTONIN RECEPTOR ANTAGONIST IN REDUCING CINV IN PATIENTS RECEIVING HIGHLY EMETOCGIC THERAPY
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CINV is common with regimens having high emetogenic potential. Prophylactic use of combination drugs have become effective in reducing the incidence.

Objectives
A comparative study of effectiveness between Fosaprepitant and Aprepitant along with dexamethasone and serotonin antagonist in reducing CINV in patients receiving highly emetogenic therapy.

Methods
35 breast cancer patients between 30-65 years receiving adjuvant chemotherapy with EC or AC were pretreated with a combination of Neurokinin antagonist, steroids and serotonin receptor antagonist as per guidelines. One arm (18 patients) received neurokinin antagonist Fosaprepitant while another arm (17 patients) received Aprepitant. None of these patients had a history of alcohol intake, regular NSAIDS or opioid usage. All received proton pump inhibitor and dietary advice.

Results
After 3 cycles patients in the Fosaprepitant group (8) ie 44.4 % experienced less incidence of all types of CINV compared to aprepitant (13) ie 76%. Patients compliance to Fosaprepitant was better. 5 (29.4%) patients had failed to ingest day 2 or 3 or both doses of aprepitant. Lack of education and vomiting were the chief contributors. Those patients who had taken all the doses of aprepitant had the same incidence of CINV. Efficacy of 2 drugs were same if taken in fullest dose. The incidence of CINV was highest after first cycle in both the arms. None underwent admission. Patients on vegetarian diet seemed to experience less CINV in both arms.

Conclusions
Fosaprepitant is possibly a better choice in combination with serotonin antagonist and steroids compared to apreipitant possibly because intravenous Fosaprepitant ensures full dose delivery.

cP020
COMPARISON OF ORALLY ADMINISTERED BRAIN (HM01)- AND NON-BRAIN (HM02)- PENETRATING GHERLIN RECEPTOR AGONISTS TO PREVENT EMESIS IN SUNCUS MURINUS (HOUSE MUSK SHREW)
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Introduction
We previously demonstrated that oral administration of the brain penetrating growth hormone secretagouge receptor (GHS-R) agonist, HM01, antagonized cisplatin-induced emesis in shrews. Here the spectrum of anti-emetic activity of HM01 is compared to peripherally acting GHS-R agonist, HM02.

Objectives
To investigate the relative importance of central and peripheral GHS-Rs in drug- and motion-induced emesis.

Methods
...
HM01 and HM02 (3-30 mg/kg) were administered orally 1 h prior to the injection of nicotine (5 mg/kg, s.c.), intragastric copper sulphate.5H₂O (120 mg/kg), or motion (10 Hz, 5 cm horizontal displacement); HM02 was also studied against cisplatin (30 mg/kg, i.p.). The number of episodes of retching and/or vomiting was recorded.

Results
Both HM01 and HM02 failed to modify nicotine and copper sulphate pentahydrate-induced emesis, but they increased food and water intake 24 h post nicotine administration. HM01 antagonized motion-induced emesis by ~78% at 10 mg/kg, and HM02 reduced emesis by ~87% at 30 mg/kg. Approximately 84% of the emetic response induced by cisplatin occurred in the first 4 h, and this was antagonized by ~67% by HM02 at 10 and 30 mg/kg.

Conclusions
The anti-emetic activity of HM02 indicates that peripheral GHS-Rs play a role in emesis induced by cisplatin and motion. However, the greater efficacy provided by HM01 suggests that an additional activation of centrally located GHS-Rs is necessary for an optimal control. GHS-Rs do not appear to be involved in nicotine- or copper sulphate-induced emesis.

eP021
QUANTITATIVE MARKET RESEARCH TO IDENTIFY FACTORS THAT INFLUENCE CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING (CINV) TREATMENT COMPLIANCE
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Introduction
The neurokinin-1 receptor antagonist (NK1RA), 5-hydroxytryptamine-3 receptor antagonist (5HT3RA), and dexamethasone combination is recommended by antiemetic guidelines for prevention of CINV in high-risk patients. Although guidelines adherence can reduce CINV incidence, recommendations are not always followed. Complex antiemetic regimens might contribute to guideline nonadherence by clinicians and to errors during home administration by patients. Regimen simplification with NEPA, an oral fixed combination of netupitant (NK1RA) and palonosetron (5HT3RA), administered in a single-dose prior to chemotherapy, may increase adherence/compliance.

Objectives
To identify factors contributing to noncompliance to antiemetic regimens and to determine if therapy simplification is needed.

Methods
Quantitative market research was performed. Responses to an online questionnaire to 300 oncologists from Italy, France, Germany, Spain, and the UK seeing ≥50 patients/month were analyzed.

Results
The reported CINV incidence despite antiemetic treatment was 15% and 21% (acute), and 18% and 26% (delayed) for patients receiving moderately or highly emetogenic chemotherapy, respectively. Planning weak antiemetic regimens (ie, monotherapy instead of combination) and administration mistakes were identified among the reasons for treatment failure (acute-delayed) by 31-33% and 17-21% of oncologists, respectively. Respondents estimated that 35% of patients made mistakes (ie, missed/delayed doses) during home administration of antiemetics. Patient noncompliance to antiemetic prophylaxis represented a problem for 42% of oncologists.

Conclusions
Oncologists perceive patients’ noncompliance to antiemetic treatment as an important issue. Errors in administration were identified as potential causes for treatment failure, especially during home administration. A simple, effective, single-dose combination therapy (ie, NEPA) may be an option to increase antiemetic treatment compliance.

eP022
TRIAL OF ANTIEMETIC TRIPLET THERAPY COMPARING PALONOSETRON AND GRANISETRON IN BREAST CANCER PATIENTS RECEIVING AC CHEMOTHERAPY: DOUBLE BLIND RANDOMISED COMPARATIVE PHASE III STUDY
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Introduction
One of our main clinical questions has been whether 2nd generation 5-HT3ra is superior to 1st generation 5-HT3ra when administering triplet antiemetic therapy for the prevention of CINV, since the PROTECT study which demonstrated palonosetron to be superior to granisetron for controlling the delayed phase of CINV induced by HEC and
anthracycline and cyclophosphamide containing regimens (AC) for doublet antiemetic therapy including dexamethasone.

Objectives
In this study, we assessed the efficacy of 1st and 2nd generation 5-HT3ra agents for use in triplet antiemetic therapy for AC.

Methods
Between 2012 and 2015, 491 women with breast cancer receiving AC were recruited from 11 institutions, and randomly assigned to either single-dose palonosetron (0.75mg), or granisetron (40μg/kg) 30 min before chemotherapy on day 1, both with dexamethasone (9.9 mg intravenously) and aprepitant (125mg orally) on day 1 followed by additional doses (80mg orally) on days 2 and 3. Age, institution and habitual alcohol intake were used as stratification factors. The primary endpoint was a complete response during the delayed phase. This trial is registered with UMIN00007882.

Results
All 491 patients were included in efficacy analyses (ITT): 246 patients in the palonosetron group and 245 in the granisetron group. Complete responses during the delayed phase were obtained by 144 of the 246 patients (58.5%) in the palonosetron group and 132 of the 245 (53.8%) in the granisetron group.

Conclusions
In triplet antiemetic therapy for AC, palonosetron showed better efficacy against CINV during the delayed phase than granisetron, but the difference did not reach statistical significance.

Objectives
To evaluate the efficacy of combination antiemetic treatment for delayed CINV in CRC patients receiving oxaliplatin-based chemotherapy.

Methods
We used the combined data from the two prospective observational studies; A nationwide survey of CINV study group and the other prospective observational study in Japan. We assessed whether delayed CINV were controlled with combination antiemetic treatment. We also evaluate risk factors by logistic regression analysis.

Results
A total of 317 patients were evaluable in this study. The median age was 63 (range:19-81) with 180 males and 137 females. Three antiemetics were used in 46 (14.5%) patients. Delayed nausea and vomiting were experienced more commonly in women than in men. Delayed vomiting was well controlled with 3 antiemetics than with 2 antiemetics for overall (4.3% vs. 17.0%; P=0.0255) and for women (4.0% vs. 26.8%; P=0.0153). We identified several risk factors; women (OR=1.634 ;P=0.0402) and motion sickness (OR=2.893 ;P=0.0040) for delayed nausea, and women (OR=3.069 ;P=0.0007) and 2 antiemetics (OR=5.375 ;P=0.0245) for delayed vomiting.

Conclusions
Three antiemetics combination are encouraged for CRC patients treated with oxaliplatin-based chemotherapy to alleviate delayed vomiting.

eP024
MANAGING CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING (CINV) IN HEAD AND NECK CANCER PATIENTS RECEIVING CISPLATIN-BASED CHEMOTHERAPY WITH CONCURRENT RADIATION

Introduction
The most common treatment for patients with head and neck cancer is platinum chemotherapy with concurrent radiation. This treatment plan can lead to significant nausea and vomiting over multiple cycles.

Objectives
The objective was to retrospectively examine the anti-emetic regimens prescribed for prophylaxis of chemotherapy-induced nausea and vomiting (CINV) for head and neck cancer patients receiving moderate- or high-emetogenic chemotherapy (MEC/HEC) along with concurrent radiation treatment at an outpatient ambulatory care centre to determine the efficacy of anti-emetics prescribed.

Methods
Patients with head and neck cancers who initiated cisplatin chemotherapy with concurrent radiation treatment between January 2013 and June 2015 were examined. Patients’ antiemetic use and documentation of CINV was extracted from
available clinical documentation. Patients were divided into two cohorts: CISPL-HIGH (n=161), and CISPL-WEEKLY (n=38).

**Results**

A total of 199 head and neck cancer patients (158 male, 41 female) were included in the analysis (mean age = 59 years). In the CISPL-HIGH cohort, 33 males (26%) and 16 females (49%) experienced CINV. In the CISPL-WEEKLY cohort, four males (13%) and two females (25%) experienced CINV. Nausea occurred in 71 patients (62 HEC and 9 MEC). The odds of achieving complete response (no nausea or vomiting) were 3.5 (p<0.0016) times more likely for patients receiving MEC.

**Conclusions**

Overall, the complete response rate for the prophylaxis in MEC and HEC was 61% and 31%, respectively. This is the only known large study to our knowledge to analyze head and neck cancer patients receiving cisplatin chemotherapy with concurrent radiation over the entire prescribed period.

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**eP026**

**EFFECTS OF ROLAPITANT ADMINISTERED INTRAVENOUSLY ON THE PHARMACOKINETICS OF COOPERSTOWN COCKTAIL (MIDAZOLAM, OMEPRAZOLE, WARFARIN, CAFFEINE, AND DEXTROMETHORPHAN) IN HEALTHY VOLUNTEERS**

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**Introduction**

Rolapitant (VARUBI®) is a selective, long-acting NK-1 receptor antagonist for the prevention of chemotherapy-induced nausea and vomiting (CINV). Results from rolapitant oral studies on substrates of cytochrome P450 (CYP450) enzymes (3A4/2D6/2C9/2C19/2B6/2C8) have been previously reported.

**Objectives**

To evaluate the effects of rolapitant administered intravenously (IV) on the pharmacokinetics (PK) of Cooperstown Cocktail (Midazolam [CYP3A4], Omeprazole [CYP2C19], S-warfarin [CYP2C9], Caffeine [CYP1A2], and Dextromethorphan [CYP2D6]), and the safety and tolerability in healthy volunteers.

**Methods**

On Days 1 and 14, subjects (n=36) received an oral dose of Cooperstown Cocktail. On Day 7, subjects received an oral dose of Cooperstown Cocktail at the end of infusion of 166.5-mg rolapitant IV. On Days 21, 28, and 35, subjects received an oral dose of dextromethorphan alone. Blood samples for CYP substrates were collected up to 120 hours post-dosing for each dosing day. Safety was assessed for all dosed subjects.

**Results**

Rolapitant IV had no effects on CYP2C9 and CYP1A2. Consistent with oral studies, rolapitant IV had minimal, nonclinically significant effects on midazolam (CYP3A4) and omeprazole (CYP2C19) PK. Rolapitant IV inhibited CYP2D6 and increased dextromethorphan exposure with a peak effect observed 14 days after rolapitant IV administration (geometric least-squares mean ratio of 3.2 and 2.7 for AUC\text{\textsubscript{0-72}} and C\text{\textsubscript{\text{\text{max}}}}, respectively). There were no clinically significant adverse events or laboratory findings in the study.

**Conclusions**

Rolapitant IV was well-tolerated when co-administered with Cooperstown Cocktail. No dosage adjustment is required when co-administered with CYP3A4/CYP2C9/CYP2C19/CYP1A2 substrates. Dosage adjustment or caution is warranted for CYP2D6 substrates with a narrow therapeutic index.
OF DIGOXIN (P-GP) AND SULFASALAZINE (BCRP) IN HEALTHY VOLUNTEERS

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Introduction
Rolapitant (VARUBI®) is a selective, long-acting NK-1 receptor antagonist for the prevention of chemotherapy-induced nausea and vomiting (CINV). Effects of oral rolapitant on P-glycoprotein (P-gp) and breast cancer resistance protein (BCRP) have been previously reported. Although increases in the Cmax of the P-gp substrate digoxin and BCRP substrate sulfasalazine were observed with oral rolapitant, no dosage adjustments are required.

Objectives
To evaluate the effects of rolapitant administered intravenously (IV) on the pharmacokinetics (PK) of digoxin (P-gp) and sulfasalazine (BCRP) in healthy volunteers.

Methods
In the P-gp study (n=36), digoxin PK sampling was collected up to 96 hours post dosing in both Period 1 (0.5-mg digoxin oral) and Period 2 (0.5-mg digoxin oral + 166.5-mg rolapitant IV). In the BCRP study (n=30), sulfasalazine PK sampling was collected up to 30 hours post dosing on Days 1 and 13 (500-mg sulfasalazine oral), and Day 3 (500-mg sulfasalazine oral + 166.5-mg rolapitant IV). Safety was assessed for all dosed subjects.

Results
Rolapitant IV had no effect on digoxin AUC and slightly increased digoxin Cmax by 21% (90% confidence interval [CI]: 1.07 to 1.37). Rolapitant IV had no effect on sulfasalazine PK on Day 3 and slightly decreased sulfasalazine Cmax by 18% (90% CI: 0.69 to 0.97) on Day 13. There were no clinically significant adverse events or laboratory findings, and no clinically significant findings on ECG in this study.

Conclusions
Rolapitant IV was well tolerated and no dosage adjustment is required when rolapitant IV is co-administered with P-gp or BCRP substrates.

cP028

STRAIN DIFFERENCES IN CISPLATIN-INDUCED EMESIS IN MICE

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Introduction
To analyze the antiemetic potential of newly-developed drugs, the objective evaluation of emesis in experimental animals is required. Rodents (e.g. rats and mice) are assumed to be unsuitable for this purpose because they do not vomit. We have proposed that pica, kaolin ingestion behavior, in rats can be used as an assessment of emesis in humans. We previously found that mice also showed pica, but the incidence varied considerably.

Objectives
In this study, we developed an automatic kaolin intake monitoring system and investigated the susceptibility to development of cisplatin-induced pica in four strains of mice (ICR, C57BL/6, BALB/c, and DBA/2) by confirmation of the time-course profile of pica.

Methods
Mice were housed in individual kaolin intake monitoring cages (FDM-300SW; Melquest, Toyama Japan). On the day of the experiment, mice received cisplatin (7.5 mg/kg, i.p.) with or without granisetron (0.1 mg/kg, i.p.), then their kaolin intake was monitored hourly for 3 days.

Results
In DBA/2 mice, cisplatin induced pica within 6 hours of the administration and the pica continuously lasted for 3 days. The pica of the first day was effectively inhibited by granisetron. ICR mice tended to eat kaolin, but there was no significant difference because of large individual differences. C57BL/6 and BALB/c mice did not eat any kaolin after administration of cisplatin.

Conclusions
These results indicated that cisplatin-induced pica in mice is likely to be influenced by genotype and DBA/2 mice and this monitoring system is useful to analyze the antiemetic potential of drugs in preclinical studies.

cP029

A PHASE II STUDY OF PALONOSETRON, APREPITANT, DEXAMETHASONE AND OLANZAPINE FOR THE PREVENTION OF CISPLATIN-BASED CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING IN PATIENTS WITH THORACIC MALIGNANCY

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Introduction
The three-drug combination of a 5-hydroxytryptamine 3 (5-HT3) receptor antagonist, aprepitant, and dexamethasone is recommended for patients receiving highly emetogenic chemotherapy (e.g., cisplatin or combined anthracycline plus cyclophosphamide). However, this standard antiemetic therapy has room for further improvement.

Objectives
We conducted an open-label, single-center, single-arm phase II study to evaluate the additional efficacy of olanzapine for the prevention of chemotherapy-induced nausea and vomiting in patients with thoracic malignancy receiving cisplatin-based chemotherapy.

Methods
This study was performed in patients with thoracic malignancy receiving their first cycle of cisplatin-based chemotherapy. Patients received 5 mg of oral olanzapine on
days 1 to 5 in combination with standard antiemetic therapy. The primary endpoint was complete response (no vomiting and no use of rescue medication) during the overall phase (0-120 hours post chemotherapy).

**Results**
Thirty patients were enrolled between May and October of 2015. The patients included 23 men and 7 women with a median (range) age of 64 (36-75) years. Fourteen patients received cisplatin 75 mg/m² and pemetrexed 500 mg/m² as the most frequent regimen. Complete responses in acute (0-24 hours post chemotherapy), delayed (24-120 hours post chemotherapy), and overall phases were 100%, 83%, and 83%, respectively. There were no grade 3 or 4 adverse events. Although four patients (13%) experienced grade 1 somnolence, no patients discontinued olanzapine.

**Conclusions**
The addition of 5 mg of oral olanzapine to standard antiemetics demonstrated promising efficacy for the prevention of cisplatin-based chemotherapy-induced nausea and vomiting with acceptable safety profile in patients with thoracic malignancy.

eP030

**THE EFFECT OF GOOD CINV MANAGEMENT WARD (GCM-WARD) PROGRAM ON CINV MANAGEMENT IN CHINA**

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**Introduction**
To improve CINV management, Chinese committee of rehabilitation and palliative care launched GCM-Ward program. The program involved three aspects. First, the physicians were trained for proper CINV management. Second, routine assessment of CINV risk factors was performed. Third, follow-up on CINV was conducted after patients discharge from hospital.

**Objectives**
This study aimed to evaluate the effect of the program on CINV management.

**Methods**
Patients diagnosed with cancer receiving highly emetogenic chemotherapy (HEC) were eligible. Patients who received chemotherapy 3 months before the initiation of the program were used as control group, while patients who received chemotherapy 3 months after the initiation of the program were used as GCM group. The proportion of patients receiving triple-agent regimen containing NK-1 receptor antagonists for CINV prevention at cycle 1 of chemotherapy of the two groups were calculated.

**Results**
Between May to October in 2015, a total of 12550 patients who received HEC (4580 in control group and 7970 in GCM group) from 32 hospital were enrolled. The proportion of patients receiving NK-1 receptor antagonist-containing regimen for CINV prevention in control group was only 6.9%, while the proportion in GCM group was 12.0%. The proportion of patients receiving triple-agent regimen in GCM group was significantly higher than that in control group (p<0.01).

**Conclusions**
The CINV prevention was poor in China. The GCM Ward Program could improve the CINV management. However, a lot of efforts are required to enhance clinicians’ skills on CINV management in future.

eP031

**OSTEOPOROSIS PREVALENCE AMONG BREAST CANCER PATIENTS IN MEXICO CITY**

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**Introduction**
Osteoporosis and breast cancer causes considerable morbidity and mortality in developed countries. It is well known that hormonal deprivation and chemotherapy causes bone loss, however, scarce information of prevalence in Latin-America is known.

**Objectives**
The aim of this study is to describe the prevalence of osteoporosis according WHO definition among breast cancer survivors in the National Cancer Institute of Mexico City.

**Methods**
Breast cancer patients, who has completed adjuvant chemotherapy were included. Bone mineral densitometry of lumbar vertebrae and hip were done 4-12 weeks after chemotherapy completion and repeated every one or two years according to basal data, aromatase inhibitors use or ovarian ablation. When osteoporosis was diagnosed, all patients recieved treatment with zoledronic acid every 6 months, as well as oral calcium supplement and vitamin D.

**Results**
199 patients were included in the analysis, the median age was 53 years-old (28-83). Among patients with ER/PR positive tumors, aromatase inhibitors were the most common treatment 58.8% followed by tamoxifen 12.6% and ovarian ablation in 2%. Overall median score T in lumbar region were -1.73 (SD+1.54) and -0.93 (SD+1.18) in hip. Osteopenia was reported in 37.7% and osteoporosis in 35.7% of the cases. Two osteoporotic patients developed fractures.

Conclusions
Osteoporosis/osteopenia rate is high in our population, even that most of the patients were pre-perimenopausal. Bigger efforts should be done to improve early detection. Also we need to encourage the use of zoledronic acid or denosumab along the endocrine adjuvant treatment and the importance of multidisciplinary approach.

c0302

RADIOLOGICAL CHANGES ON CT AFTER STEREOTACTIC BODY RADIATION THERAPY TO NON-SPINE BONE METASTASES: A DESCRIPTIVE SERIES

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Introduction
In recent years, stereotactic body radiation therapy (SBRT) has become increasingly used for the management of non-spine bone metastases. Few studies have examined the radiological changes in bone metastases after treatment with SBRT and there is no consensus about what constitutes radiologic response to therapy.

Objectives
This article describes various changes on CT after SBRT to non-spine bone metastases in eight selected cases.

Methods
A retrospective review was conducted for patients treated with SBRT to non-spine bone metastases between November 2011 and April 2014 at Sunnybrook Health Sciences Centre. A musculoskeletal radiologist identified eight illustrative cases of interest and provided a description of the findings.

Results
Different radiological changes following SBRT were described, including: remineralization of lytic bone metastases, demineralization of sclerotic bone metastases, pathologic fracture, size progression and response in different lesions, as well as lung fibrosis after SBRT to a rib metastasis.

Conclusions
We reviewed the radiological images of eight selected cases after SBRT to non-spine bone metastases and a number of characteristic findings were highlighted. We recommend future studies to correlate radiologic changes with clinical outcomes including pain relief, toxicity and long-term local control.

c0303

CBFA1-ACTIVATED EXPRESSION OF ATF6A PROTEIN IS REQUIRED FOR CHONDROCYTE DIFFERENTIATION

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Introduction
Chondrogenesis is an important process for cartilage remodeling both during embryogenesis and in adult life. It is known that BMP2 activates UPR transducers. BMP2 induces osteoblast differentiation through Cbfa1-dependent ATF6 expression, which directly regulates osteocalcin transcription. ATF6 is an endoplasmic reticulum membrane-bound transcription factor that regulates various cellular functions. However, since whether ATF6 can influence the chondrocyte differentiation has not yet been clarified, especially the molecular mechanism underlying these processes remains unexplored, our study investigate the role of ATF6 and ATFA6a in chondrogenesis and bone formation, as well as the molecular mechanisms involved.

Objectives
To examine the expression of ATF6 in the course of chondrogenesis and the regulation of chondrocyte differentiation by ATP6 and its cleaved ATP6a form, as well as the molecular mechanisms involved.

Methods
mouse BMSCs Isolation and culture; Immunohistochemistry; Quantitative PCR; Western blotting; CoIP assay; Fetal mouse bone explants culture; Reporter gene assays.

Results
ATF6 was clearly expressed in the entire growth plate chondrocyte and was induced during BMP2-triggered chondrogenesis. ATF6 was differentially induced and cleaved during BMP2-mediated chondrocyte differentiation. The Cbfa1 transcription factor appears to activate, whereas Sox6 inhibits, the expression of the ATF6 gene during BMP-2 stimulated chondrogenesis. ATF6a and ATP6 are positive regulators of chondrocyte differentiation, given that their overexpression enhances, whereas their suppression inhibits, BMP2-induced expressions of marker genes for chondrogenesis. Besides, ATF6a and ATP6 stimulate mineralization and endochondral bone growth. ATF6a associates with Cbfa1 and enhances Cbfa1-induced chondrocyte hypertrophy. In addition, this interaction is BMP2 dependent, given that this complex is undetectable...
THE PROSPECTIVE STUDY OF MEDICATION

Conclusions
These findings indicate that ATF6a favorably controls chondrogenesis and bone formation(1) by acting as a cofactor of Cbfa1 and enhancing Cbfa1-incited hypertrophic chondrocyte differentiation, and(2) by affecting IHH and PTHrP signaling.

eP035

EFFICACY AND SAFETY OF THE ZOLENDRONIC ACID IN THE MANAGEMENT OF BONE METASTASIS FOLLOWING RAPID INFUSION IN PATIENTS WITH COLORECTAL CANCER (CC)
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Introduction
One of the most serious problems colorectal cancer patients have to face is bone metastasis.

Objectives
The aim of the present study was to evaluate the safety and efficacy of new BP zoledronic acid 4 mg as administered in intravenous infusion over a period of 15 minutes.

Methods
24 patients with bone metastases received 72 infusions in total, with 4 mg of zoledronic acid injected intravenously over 15 minutes in normal saline 0.9% 250 cc every 3 weeks. Patients were followed up over 2 hours after infusion.

Results
Following the first administration of zoledronic acid serum levels of calcium, phosphate and alkaline phosphatase were significantly decreased and the difference was statistically significant (p<0.001), for all 3 parameters examined. The reduced time of infusion (15 min vs 2 hrs), did not correlate with any side-effects during or post-administration. Serum levels of creatinine and urea nitrogen did not increase. As well as changes in temperature and blood pressure were not seen in these 24 patients. Side-effects specific to aminosubstituted BP’s (fever, reduction in white blood cell counts and lymphocyte counts) were not observed.

Conclusions
Zoledronic acid in infusion of 15 minutes is efficient in management of hypocalcaemia of malignancy. The rapid infusion over 15 minutes is safe and could be given in the setting of a day care unit.

eP036

A CLINICAL STUDY OF OSTEORADIONECROSIS AT OUR HOSPITAL
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Introduction
Radiotherapy for head and neck cancer, which achieves curative treatment while preserving function, plays a major role in cancer therapy. While its efficacy makes this a desirable approach, radiotherapy is known to carry a long-term risk of causing serious late complications such as osteoradionecrosis (ORN) of the jaw.

Objectives
ORN of the jaw is difficult to treat after the onset, markedly impairing the patient’s quality of life. We report the results...
of our clinical study of the incidences and treatment of osteomyelitis and osteonecrosis of the jaw.

Methods
We clinically studied 82 patients with osteoradiomyelitis and ORN of the jaw in our department between 2009 and 2014.

Results
The subjects were 67 men and 15 women with a median age of 67 years. Oropharyngeal cancer was the most common underlying disease, followed by nasopharyngeal cancer. The radiation dose was in the range of 66 to 70 Gy, and the time from irradiation to the onset of osteonecrosis of the jaw ranged from 2 to 134 months, with a median of 25 months. The possible causes of osteomyelitis were tooth extraction in 14 patients, apical/marginal periodontitis in 35, and unknown in 26. For treatment, 78 patients received conservative therapy (antimicrobial administration) alone and 4 underwent surgery. Treatment effects were resolution in 44 patients, no change in 26, and exacerbation in 12.

Conclusions
Long-term use of appropriate antimicrobial agents can be expected to suppress and ameliorate inflammatory symptoms of osteomyelitis and osteonecrosis of the jaw following head and neck radiotherapy.

cP037

QUALITY OF LIFE IN RESPONDERS AFTER PALLIATIVE RADIATION THERAPY FOR PAINFUL BONE METASTASES USING EORTC QLQ-C30 AND EORTC QLQ-BM22: RESULTS OF A BRAZILIAN STUDY

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Introduction
Bone metastases cause pain, suffering and impaired quality of life (QOL). Palliative radiotherapy (RT) is an effective method in controlling pain, reducing analgesics use and improving QOL. Objectives
Investigate the changes in QOL scores among patients who responded to RT.

Methods
A prospective study evaluating the role of radiation therapy in a public hospital recorded patients’ opioid use, pain score, Portuguese version of QLQ-BM22 and QLQ-C30 before and 2 months after radiotherapy. Overall response was defined as the sum of complete response (CR) and partial response (PR).

Results
25 patients with bone metastases responded to RT. For BM, the mean scores of 4 categories at baseline were: Pain site (PS) 39, Pain characteristics (PC) 61, Function Interference (FI) 49 and Psycho-social aspects (PA) 57. At 2 month follow up, the scores were PS 27, PC 37, FI 70 and PA 59. In the C30 the mean scores in functional domain Physical (PF), Role (RF) and Cognitive functioning (CF) categories at baseline were 54, 45 and 62 respectively. At 2 month follow up, the scores were PF 60, RF 59 and CF 75. The changes of other C30 items were as follows: Pain (69 to 40), fatigue (44 to 36), insomnia (47 to 35), appetite loss (46 to 34) representing a reduction in symptom severity. Worse level of diarrhea (10 to 22) and better global health status (54 to 61) were also detected.

Conclusions
Responders to RT at 2 month presented improvement in some domains of BM 22 and C30.

eP038

REASON FOR DENTAL EXTRACTION AND OSTEONECROSIS OF THE JAW IN 17 CANCER PATIENTS, WHO RECEIVED ANTIRESORPTIVES AND/OR TARGETED THERAPY AND/OR CHEMOTHERAPY, PRELIMINARY REPORT

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Introduction
Dental extraction is considered a risk factor for osteonecrosis of the jaw associated with medication.
Objectives.
We assessed the reason for dental extraction and the appearance of ONJ development in cancer patients.

Patients.
Seventeen patients, 13 with solid cancers and 4 with hematological malignancies had dental extractions performed under antibiotics. Alveolar bone specimens were taken at the time of dental extraction.

Results
Sixteen dental extractions were performed due to periodontitis in 10 patients. Nine patients received antiresorptives, alone or combined with targeted therapy and/or active chemotherapy. One received bevacizumab and chemotherapy. Radiological findings included periodontal ligament widening, bone loss and periapical radiolucency. Three patients had osteonecrosis on a jaw different from the extraction site. Histological necrotic alveolar bone was observed in 8/10 patients. Dental extractions progressed to exposed ONJ in 6/10 patients, and all these patients had been under chemotherapy. The post-extraction socket healed in the other 4 patients. Ten dental extractions, in another 7 patients, who received antiresorptives, alone or combined with targeted therapy, without chemotherapy, also healed. Those extractions were performed because of deep caries or asymptomatic tooth mobility. Alveolar bone was vital on histology in all 7 patients, while one had osteonecrosis on a jaw, different from the extraction site. Periapical radiolucency was identified in 3/7 patients.

Conclusions
Dental extractions often progressed to ONJ (6 of 10 patients) in the presence of localized inflammatory periodontal disease, combined with histological necrotic bone. The role of active chemotherapy needs further investigation.

eP039
OSTEONECROSIS OF THE JAW IN A PATIENT WITH ACUTE MYELOID LEUKEMIA, WHO RECEIVED AZACITIDINE
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Introduction
Chemotherapy alone was rarely related to osteonecrosis (ONJ), while concurrent chemotherapy was reported as a potential risk factor for ONJ in patients, who received antiresorptives.

Objectives
We present the first case of ONJ, after alveolar bone disease followed by dental extraction, in a patient with acute myeloid leukemia (AML), who received azacitidine.

Methods
A 64 year old male, smoker, with (AML), who received 5-azacitidine, presented with pain and purulence of the right second premolar. An unsuccessful endodontic therapy resulted in dental extraction 6 months later. The post-extraction non-healing socket was managed with antibiotics and multiple surgical debridement without response.

Results
ONJ stage 2 was diagnosed 12 months after the initial symptoms of pain and purulence and was managed with antibiotics, ozone oil applications and low level laser treatments. Currently the patient is still receiving 5-azacitidine therapy, while ONJ remains asymptomatic.

Azacitidine is a chemical analogue of the cytosine nucleoside and functions as a DNA demethylating agent and as an antimetabolite. Azacitidine-related cytoxicity and impaired immune response to infection could have contributed to the development of alveolar bone disease, which had preceded the appearance of ONJ. Furthermore, Azacitidine, by both its demethylating and antimitabolite actions, might have negatively affected the increased needs for cellular division and growth of bone remodeling and soft tissue healing after the dental extraction in our patient.

Conclusions
Osteonecrosis in chemotherapy, including azacitidine, although rare, may increase as long-term survival of cancer patients, who receive those medications increases. Health care professionals should be alert.

eP040
USING A MARKER OF BONE REMODELING PINP TO ASSESS ANTRESORPTIVE PROPERTIES OF ZOLEDRONIC ACID (ZOL) FOR BONE METASTASES OF BREAST CANCER
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Introduction
To evaluate antiresorptive properties of Zol (Rezorba®) in patients with newly diagnosed bone metastases of breast cancer (bone mBC) with the use of PINP (amino-terminal pro-peptide of type I procollagen).

Objectives
Included 33 patients with bone mBC, histologically confirmed, at the age of 28 to 73 years, who had not received prior Zol. Radiographic evidence of bone mts, normal levels of biochemical parameters in serum. All patients had ER+ and/or PR+, 4 was Her-2/neu. Patients were divided groups: ≤3 single (n=24) and multiple≥3 (n=9). Simultaneously with the Zol perform chemotherapy (CT), or hormone therapy (HT) in the first (n = 30) or the second line (n = 3). Zol was administered 4mg i.v. every
Results

Ordered was selected for comparison of information on March 2014 to November 2015 was conducted and 61

Methods

According to the initial level marker PINP patients were divided on the risk of skeletal complications: I-normal level PINP (<35 ng/ml)- low risk (5 patients); II-moderately PINP (>35 <95 ng/mL)- moderate risk (20 patients); III-high levels PINP (>95 ng/ml)- high risk (8 patients). The majority of patients (n = 20) had a moderate risk of skeletal complications, high risk 8 patients, low risk 5 patients.

Results

According to the results use of the Zol has led to a decrease in the median level PINP in the whole group before treatment 63ng/ml for 13 weeks to 33ng/ml, p = 0.006.

The median value PINP on the whole group

(1 - before treatment, 2 - 13 weeks)

Conclusions

The findings demonstrate the ability to assess the effectiveness of antiresorptive therapy Zol with a marker PINP in patients with newly diagnosed bone mBC.

cP041

THE FREQUENCY AND OUTCOMES OF URINE DRUG TEST AMONG ADVANCED CANCER PATIENTS ON CHRONIC OPIOID THERAPY AT AN OUTPATIENT SUPPORTIVE CARE CENTER

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Introduction

Urine drug test (UDT) is an important risk management tool frequently used in chronic opioid therapy (COT) among patients with non-cancer pain. However, data on its utility among patients with advanced cancer is limited.

Objectives

The main objective of the study was to determine the factors associated with the physician ordering of (UDT) in patients on COT at an outpatient supportive care center.

Methods

A retrospective chart review of 1058 patients seen from March 2014 to November 2015 was conducted and 61 patients on COT who underwent UDT were identified. A controlled group of 120 patients who did not have UDT ordered was selected for comparison of information on demographic and clinical characteristics.

Results

UDT ordering was 2.33 times more likely among African American than Caucasians (OR=2.33, 95% CI: (1.03, 5.29), p=0.0426), 2.19 times more likely among patients with less education than those with higher education (OR=2.19, 95% CI: (1.06, 4.52), p=0.0344), 3.42 times more in CAGE positive patients than in CAGE negative patients (OR=3.42, 95% CI: (1.60, 7.31), p=0.0016), and 0.69 times less likely in patients with advanced cancer than in patients with early disease or no evidence of disease. In a multivariate analysis, only cancer stage (OR=0.32, 95%CI: (0.13, 0.77), p=0.0112) and CAGE (OR=3.32, 95% CI: (1.53, 7.21), p=0.0025) were significantly associated with the UDT ordering.

Conclusions

UDT may be a useful risk management tool in chronic opioid management among advanced cancer patients. More studies are needed to further verify its clinical effectiveness in this patient population.

cP042

URINARY CYTOKINES/CHEMOKINES PATTERN AFTER MAGNETIC RESONANCE- GUIDED HIGH INTENSITY FOCUSED ULTRASOUND FOR PALLIATIVE TREATMENT OF PAINFUL BONE METASTASES


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Introduction

Pain is experienced by 50%-75% of patients with bone metastases, representing a major source of morbidity amongst cancer patients. Magnetic Resonance- Guided High Intensity Focused Ultrasound (MRgHIFU) is a new, non-invasive, outpatient treatment modality for painful bone metastases.

Objectives

The aim of this study is to analyze urinary cytokines/chemokines pattern after MRgHIFU for palliative treatment of painful bone metastases. The findings will be compared to the cytokines/chemokines pattern post single 8Gy fraction radiation from our previous study.

Methods

Urine samples were collected from patients with painful bone metastases 3 days before and 2 days after treatment with MRgHIFU. Each urine sample was tested for pro-inflammatory and anti-inflammatory cytokines. Patients
received teaching on how to collect urine samples on their own. The Millipore MilliQlex 42-Plex Cyto-kinie/Checmokine Kit™ was used to measure urinary levels of a panel of cytokines/chemokines.

**Results**

Ten patients were enrolled for the study and provided urine samples 3 days before and 2 days after treatment with MRgHIFU. The following fifteen cytokines were above the Level of Detection in at least 50% of patients at both pre MRgHIFU and post MRgHIFU: EGF, Eotaxin, Fit-3 Ligand, Fractalkine, G-CSF, GRO, IFN-alpha2, IL-1ra, IL-8, IP-10, MCP-1, PDGF-AA, RANTES, sIL-2Ra, and VEGF. Nine urinary cytokines significantly decreased post MRgHIFU; namely, Eotaxin, GRO, IL-8, IL-13, IP-10, MCP-1, MIP-1beta, RANTES, and sIL-2Ra. In addition, there were significant differences between post MRgHIFU and post 8Gy fraction radiation in most urinary cytokines.

**Conclusions**

Nine urinary cytokines significantly decreased post MRgHIFU which correlated with pain response in patients with painful bone metastases.

cP043

**EFFECTIVENESS OF METHADONE IN OPIOID ROTATION FOR PALLIATIVE CARE PATIENTS**

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**Introduction**

Methadone is a second line opioid in managing cancer pain. However it has complex pharmacokinetic profile and pose difficult usage, and few reports describe it usage.

**Objectives**

This study aims to review methadone utilization in palliative outpatient care patients. Compliance, effectiveness in controlling pain, and toxicity are reviewed.

**Methods**

Advanced cancer patient who were followed up in palliative outpatient care clinics between January 2012 to December 2013 were reviewed. Patients were noted for usage based on the four indications: morphine intolerance, morphine refractory, renal impairment or neuropathic pain. Compliance to Department “Pain and Symptom Control” Protocol on dose titration and indications were reviewed. Pain score assessment at baseline, 2 weeks and three months after initiation of methadone, and toxicities were analyzed.

**Results**

24 patients were analyzed in this time period. The most common indication for usage is morphine refractory (n=19, 76%). The mean morphine dose usage before switching was 75mg daily (range 20-180). On 46% compliance to department protocol was noted. An average of methadone 2.5mg to 5mg BD or TDS was used as starting dose. 54% patients achieved satisfactory relief, and pain control improved over time (58% at 1 month and 75% at 3 months). Most common side effects are drowsiness (38%), constipation (17%) and hallucination (4%).

**Conclusions**

The study confirms methadone is effective in 70% of patients, and well tolerated. Further review in department protocol should be implemented to guide its correct usage.

cP044

**EXTRASPINAL PERCUTANEOUS OSTEOPLASTY FOR THE TREATMENT OF PAINFUL BONY METASTASIS**

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**Introduction**

Extraspinal percutaneous osteoplasties (POPs) are novel techniques for the treatment of painful bony metastasis, which is often the cause of both persistent and incidental breakthrough pain.

**Objectives**

This retrospective study explored the efficacy, adverse effects, and complications of extraspinal POPs.

**Methods**

The origin of the cancer metastasis, performed POPs sites, coexisting sites of bony metastasis, the approach methods of the POPs, necessity of adjacent joint injections, pain measurement, Karnofsky performance scale(KP), complications related to the POPs, and life expectancy were evaluated from the medical records.

**Results**

Total 46 (M/F = 27/19) patients had received 53 POPs from 2009 to 2015. The principle approaches for the POPs were chosen as the shortcut to the targeted osteolytic lesion, while preventing nerve or vessel damage. Pain due to metastatic lesion was reduced significantly immediately after POPs and sustained until the end of their lives. The median KPS was increased from 35.4% to 67.7% immediately after POPs. The mean life expectancy after performing POPs, for patients which died afterwards (35/46), was 68.6 days, ranging from 1 to 348 days.

**Conclusions**

Even though pain in the isolated POP sites maybe difficult to measure due to overlapped systemic pain, the POPs provided immediate pain relief, and showed better physical performance results in patients with painful bony metastasis when changing positions or moving into a dependent position. The most common origins of the cancer were the lung, liver, breast, and colon: the POPs were most frequently performed on the rib, scapula, ilium, and humeral head.

cP045

**SUBCUTANEOUS ACCESS PORT IMPLANTATION FOR EPIDURAL ADMINISTRATION WITH PATIENT CONTROLLED ANALGESIA FOR THE MANAGEMENT OF REFRACTORY CANCER PAIN**

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Introduction
Subcutaneous access port implantation for epidural administration (SCAPIFEA) is designed for long-term, repeated access to the epidural space for delivery of opioids and local anesthetics. It can be connected to a portable infusion pump to adjust the infusion rate based on the patients’ need for analgesia.

Objectives
This study was performed to evaluate the efficacy and complications of SCAPIFEA with patient controlled analgesia (PCA) for management of refractory cancer pain.

Methods
Our retrospective study of SCAPIFEA with PCA included patients who had the device implanted from Feb 2010 to May 2011. To evaluate the efficacy of SCAPIFEA with PCA for refractory cancer pain, a numeric rating scale (NRS) score was used to determine pain relief, and the Karnofsky performance status (KPS) index was used to evaluate the patient’s functional impairment; both scores were determined before and after the implantation. Complications were also recorded.

Results
Twenty-two patients received SCAPIFEA. There was no follow-up information for 2 patients after their discharge. The mean NRS score decreased from 7.5 ± 0.9 to 2.6 ± 1.1 and the mean KPS score increased from 35.0 ± 8.3 to 40.5 ± 11.0 on the third day after implantation. The mean implantation period was 48.0 days, ranging from 4 to 162 days. Complications included 2 consecutive catheter obstructions in one patient and an epidural abscess after catheter migration into the skin in another patient.

Conclusions
SCAPIFEA with PCA for refractory cancer pain showed excellent long-term pain relief and improved functional performance after the implantation with some complications.

eP046

TAXANE-INDUCED ARTHRALGIA AND MYALGIA: A LITERATURE REVIEW

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Introduction
Arthralgia and myalgia following taxane chemotherapy have been documented in the literature. However, these two toxicities associated with taxane treatment have not been closely examined in the literature and data remains inconsistent in terms of the reported incidences of these toxicities.

Objectives
The purpose of this literature review was to provide a more comprehensive understanding of the incidence of taxane-induced arthralgia and myalgia, as well as to document the risk factors and preventative and therapeutic treatments that have been investigated.

Methods
A literature search was conducted in Ovid Medline, OldMedline, Embase, Embase Classic, and Cochrane Central Register of Controlled Trials using relevant subject headings and keywords such as: “arthralgia”, “myalgia”, “muscle pain”, “joint pain”, “taxane”, “chemotherapy”, “docetaxel”, “paclitaxel”.

Results
The reported incidences of arthralgia and myalgia were variable. Taxane chemotherapy was found to be associated with greater incidences of arthralgia and myalgia than non-taxane forms of chemotherapy. Moreover, docetaxel and nab-paclitaxel seem to be associated with lower incidences of arthralgia and myalgia than paclitaxel. Finally, the literature on prevention and therapeutic treatment of taxane-induced arthralgia and myalgia is scarce.

Conclusions
More studies should be done in order to more conclusively identify optimal therapeutic and preventative treatments as well as different risk factors. We recommend that a prospective study be done in order to better understand the true incidence of arthralgia and myalgia in patients being treated with the paclitaxel, docetaxel, and nab-paclitaxel.
Methods
Breast cancer patients scheduled to receive taxane chemotherapy completed an initial baseline questionnaire and subsequently filled out a diary on days 1-7, 14, and 21 for three consecutive treatment cycles. Pain scores for worst, least, average, and current pain intensity dimensions as well as pain interference scores were recorded in the diaries and questionnaires using the BPI. Worst, least, average, and current pain scores were correlated with functional pain interference scores using Spearman's rank correlation coefficients. A general linear mixed model of each functional interference measure was performed over time for cycles 1-3 with each pain intensity dimension scale.

Results
Among worst, average, least, and current joint pain dimensions, average joint pain scores correlated best with all BPI interference responses while average muscle pain scores correlated best with all BPI interference responses except for sleeping probability and normal work.

Conclusions
We recommend the BPI scale measuring average pain for future studies evaluating pain scores in patients experiencing taxane-induced arthralgia and myalgia.

eP049
A PROSPECTIVE STUDY OF DOCETAXEL-ASSOCIATED ACUTE PAIN SYNDROME
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Introduction
Taxane-associated acute pain syndrome (T-APS) is a common side-effect of taxane chemotherapy. At present, the prospective studies which study T-APS examine only paclitaxel patients. No study has examined T-APS manifestation up to one-year after treatment.

Objectives
To prospectively investigate the natural history of T-APS in a docetaxel patient cohort and examine long-term manifestation of T-APS; furthermore, to assess which pain intensity dimension scale (worst, least, average, or current pain) from the Brief Pain Inventory (BPI) correlates most with functional interference scores in patients experiencing T-APS.

Methods
Taxane-naive breast cancer patients completed diaries on days 1-7, 14, 21 for three cycles following treatment and 3, 6, 9, 12 months post-treatment. Questionnaires to assess pain and interference were adapted from the BPI. Worst, least, average, and current pain scores were correlated with functional interference scores using Spearman's rank correlation coefficients.
Results
A total of 278 patients were accrued and 217 analyzed. T-APS occurred in 50-70% of patients treated with docetaxel over three cycles and pain severity decreased with subsequent cycles. Both joint and muscle pain persisted one year post-treatment in a quarter of responding patients. Pain peaked on days 4 or 5 for each cycle. Neuropathic pain descriptors were commonly noted in patients in the acute phase and 12-month-follow-up. Average joint and muscle pain scores correlated best with BPI interference responses.

Conclusions
This study documents the significant prevalence of T-APS in docetaxel patients and shows long-term pain persistence. We recommend the BPI average pain scale for future studies evaluating pain scores in patients experiencing T-APS.

eP050
A PROSPECTIVE MULTI-CENTRE STUDY OF INDIVIDUALISED MANAGEMENT OF BREAKTHROUGH CANCER PAIN (BTCP)
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Introduction
Breakthrough cancer pain (BTcP) is often difficult to manage, and a variety of different treatment modalities have been used to treat this condition.

Objectives
The objectives of the study were to determine the success of specialist assessment / treatment, and the success of individual treatment modalities (in the management of BTcP).

Methods
One hundred patients with BTcP were assessed, treated and reassessed at 1 and 2 weeks by a pain specialist with an interest in BTcP. Treatment was at the discretion of the pain specialist, i.e. treatment was individualised.

Results
At 1st assessment, clinicians determined that 29 patients had adequately controlled BTcP, and that 71 patients required an intervention to improve BTcP. At 2nd assessment, 62% patients reported their BTcP was “better”, 25.5% that BTcP was “same”, and 12.5% that BTcP was “worse”.

Interventions used were treatment of underlying cause (n = 5), titration of background medication (opioid titration - n = 32), amendment of background medication (opioid switch - n = 7; commencement of adjuvant analgesic - n = 4), titration of rescue medication (n = 2); commencement of rescue medication (oral transmucosal opioid - n = 9; intranasal opioid - n = 5; oral opioid - n = 2), advice re use of rescue medication (n = 2), whilst 2 patients declined any additional intervention.

Conclusions
BTcP is a heterogeneous condition, and treatment needs to be individualised.

eP051
THE BARRIERS AGAINST OPTIMAL OPIOID PRESCRIBING IN POLAND
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Introduction
Cancer pain remains undertreated in Poland, in spite of good accessibility of fully reimbursed strong opioids.

Objectives
To determine emotional, psychological and legal barriers of professionals supposed to prescribe strong pain killers.

Methods
Questionnaire with boolean answers, Likert scale judgement and working knowledge test has been used.

Results
Preliminary results have been statistically analyzed. Apart from cost-related barriers that may affect optimal cancer pain treatment, there are some internal psychological barriers on physician’s side. Common opioidophobia, insufficient knowledge of the rules of safe opioid usage, hesitation resulting from legal threats may be frequent reasons of suboptimal cancer pain treatment.

Conclusions
Critical areas for development and education have been determined. Further investigations should be performed though.

eP052
PATIENT AND CARER EXPERIENCES OF PAIN CARE IN A REGIONAL AUSTRALIAN COMPREHENSIVE CANCER CARE SETTING: A QUALITATIVE SUB-STUDY OF THE STOP CANCER PAIN TRIAL
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Introduction
The Stop Cancer PAIN Trial (‘trial’) is evaluating implementation of national guidelines addressing pain (Cancer Council Australia Cancer Guideline Wiki) in adults attending oncology and palliative care outpatient services to reduce the burden of unrelieved pain. Better understanding cancer patient and carer experience of pain care across both metropolitan and regional Australian settings is required to optimise guideline adherence at participating sites.

Objectives
The objectives of this qualitative sub-study are to: 1) gain insights into the pain assessment and management experiences of cancer patients attending a regional Australian comprehensive cancer centre; and 2) refine the trial intervention.

Methods
Telephone interviews with cancer patients reporting worst pain >2/10 Numerical Rating Scale and their carers. Interviews focused on pain experience and perceived delivery and effectiveness of pain care, including screening, assessment, management, self-management education, care coordination and degree of person-centredness.

Results
Fifteen patients and five carers participated. Most highlighted the benefit of attending a regional comprehensive cancer service, yet receipt of guideline recommended pain care varied. While pain not related to cancer and/or its treatment was not perceived to be the concern of cancer clinicians, participants appreciated caring, consistent and co-ordinated approaches to pain. Few reported receiving cancer pain education or self-management strategies; rather, most participants relied on self-taught strategies or those learnt from other health services, media and/or family.

Conclusions
Findings highlight the need for service-wide integration of person-centred evidence-based pain care for cancer patients; and importance of integrating and testing pain education/self-management strategies as part of the trial.

cP054
RADIOTHERAPY FOR SYMPTOMATIC LYMPH NODE METASTASIS FROM HEPATOCELLULAR CARCINOMA
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Introduction
Lymph node (LN) metastasis from hepatocellular carcinoma (HCC) is known as a poor prognostic indicator for survival while being uncommon. With the improvement of diagnostic imaging and survival in advanced HCC patients, however, the incidence is more likely to increase.

Objectives
To evaluate the treatment outcomes of external beam radiotherapy (RT) for symptomatic LN metastasis from HCC.

Methods
Between 2004 and 2015, 51 HCC patients underwent RT for symptomatic LN metastasis. The most common symptom was pain which was present in 72.5%. The median age, biologically effective RT dose, and follow up period were 58 years, 50 Gy10, and 3.6 months, respectively.

Results
Regarding symptoms, a response rate of 80.9% was observed. Among the 47 patients available for post-RT symptom evaluation, 38 showed either a complete remission of symptoms or a significant improvement, and only 9 showed no change in symptoms. The median survival (MS) was 3.8 months. On multivariate analysis of pre-RT factors, Child-Pugh class B-C (HR, 3.70), non-nodal distant metastasis (HR, 2.14), and uncontrolled intrahepatic disease (HR, 1.86) were significantly poor prognosticator for survival (all p<0.05). Prognostic grouping into 3 groups by the number of risk factors also had a significant predictive value for survival, with patients having 0, 1, and 2 risk factors demonstrating MS of 6.1, 3.9, and 2.2 months, respectively (p<0.001).

Conclusions
A significant response rate regarding symptoms was observed in patients undergoing RT for LN metastasis from HCC. The prognostic grouping can be effectively used for the prediction of survival for these patients.
Effects of Orenge dokuto for Advanced Cancer Patients with Brain Metastasis, Brain Tumor, and Veretbral Body Metastasis.

Introduction

We use TSUMURA orenge dokuto extract (TJ-15®) to palliate symptoms of brain metastasis, brain tumor, vertebral body metastasis, and others. Orenge dokuto has a heat removing action. We expect anti-inflammatory effects of orenge dokuto for inflammatory conditions associated with cancer such as cachexia and local inflammation resulting from metastases and invasion.

Objectives

We confirm effects of orenge dokuto.

Methods

We retrospectively studied patients prescribed with orenge dokuto from 2008 to 2016.

Results

58 cancer patients prescribed with orenge dokuto, all at an advanced stage, presenting with some kind of symptoms resulting from metastases or invasion. The cancer types were lung cancer in 17 patients, colorectal cancer in 7 patients, breast cancer in 9 patients, renal cancer in 7 patients, esophageal cancer in 4 patients, gastric cancer in 4 patients, and others in 10 patients. Nineteen patients had brain metastasis, 3 patients had brain tumor, 25 patients had vertebral body metastasis (including spinal infiltration), and 6 patients had liver metastasis. It was considered that the use of orenge dokuto clearly improved the symptoms of pain in 17 patients (12 non-responders), itching sensation associated with jaundice, in 8 patients (1 non-responder), dizziness and light-headedness associated with brain metastasis in 6 patients (3 non-responder), and the level of consciousness in 2 patients, albeit concurrent use of analgesic agents, steroids, and radiotherapy. No relapse occurred in the 6 patients who were prescribed orenge dokuto for hematemesis, melena, and hemoptysis.

Conclusions

Orenge dokuto have many effects to palliate cancer related symptoms.

Compared Study of Efficacy and Safety Between Oxycodone/Naloxone CR and Oxycodone CR in Korean Cancer Pain Patients

Introduction

Previous studies have shown that oxycodone/naloxone[CR] improved bowel function compared with oxycodone[CR] through the local antagonistic effect of naloxone in the gut wall, whilst providing a similar analgesic effect.

Objectives

This study aimed to demonstrate non-inferiority efficacy of oxycodone/naloxone [CR] compared with oxycodone[CR] in Korean cancer pain patients that has not yet been addressed.

Methods

Patients who had a pain NRS score ≥4 and needed strong opioid therapy were enrolled into a randomized, multicenter, open label, non-inferiority, and phase IV study. The initial dose of oxycodone/naloxone[CR] was 20/10mg/day which could be up-titrated, as deemed necessary by the investigator, to a maximum of 80/40mg/day. The primary outcome was the difference in NRS score at 4 weeks from baseline by intention to treat analysis; the margin of non-inferiority oxycodone/naloxone[CR] vs oxycodone[CR] was set to be 1.5. EORTC QLQ-C30 and bowel habit change were also evaluated as secondary outcomes.

Results

Mean change in NRS (n=117) was not significantly different between oxycodone/naloxone[CR] and oxycodone[CR] (−1.586 vs −1.559; p=0.948). Upper boundary of the 95% confidence interval for the difference (−0.776 to 0.830) was below the non-inferiority margin (p=0.0001). Numerical improvements were seen for secondary endpoints, including bowel habit change, MgO intake, EORTC QLQ-C30, SAE, and ADR, although these results were not statistically significant.

Conclusions

Oxycodone/naloxone[CR] was non-inferior to oxycodone[CR] for controlling cancer pain in Korean patients, and demonstrated a similar tolerability profile.
EXPECTED DECREASE IN PAIN AFFECTS PROGNOSIS OF PAIN IN CANCER PATIENTS: A PROSPECTIVE STUDY OF RESPONSE TO MORPHINE

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Introduction
Cancer pain is a multidimensional experience that includes physiological, sensory, affective, cognitive, behavioral, and sociocultural dimensions. Few prospective studies have examined the relationship between a patient’s expectation of pain improvement and the pain prognosis.

Objectives
The aim of this prospective study was to evaluate this relationship after morphine treatment in a cohort of opioid-naive patients with various types of cancer.

Methods
The subjects were patients scheduled for cancer pain treatment with morphine who were taking non-steroidal anti-inflammatory drugs daily. Morphine treatment was performed according to the standard method, including titration (NCCN Guidelines™, Adult Cancer Pain). Linear regression analyses were performed using univariate and multivariate models. Multivariate models were adjusted for age, gender, Performance Status, genotype, required dose of morphine, expectation of pain decrease, HADS score, difference between the physicians, and balance of mental and physical pain.

Results
A total of 100 patients with baseline data were included, and 97 patients (51% female) met the inclusion criteria. 91 patients were evaluated in genotype analysis. The required dose of morphine (day 8) was evaluated in 85 patients. Assessments were conducted pre-treatment, post-treatment, and one day and one week after treatment. Patients with a high expectation for a decrease in pain on day 1 had a significantly lower NRS score on day 8 (p = .008).

Conclusions
The results of the study show that cancer patients with an expectation of a decrease in pain on day 1 had significantly lower actual pain on day 8.

RADIOThERAPY IN BONE METASTASES - A SINGLE INSTITUTE EXPERIENCE

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Introduction
Bone metastases (BM) is a major complication of many solid tumors like breast, prostate, thyroid and lung cancers. Radiotherapy has established role in relieving pain caused by BM. Worldwide different radiotherapy schedule are being used for BM.

Objectives
Aim of this study is to determine the efficacy of single fraction palliative radiotherapy for painful bone metastases.

Methods
Between March 2010 and September 2010, 120 patients with pathologically proven breast or prostate cancer with radiological evidence of bone metastases were treated with 8Gy in single fraction palliative radiotherapy in our institution. There were 56 (46.7%) males and 64 (53.3%) females. All patients had pain score of more than five on Brief Pain Inventory (BPI). Response was evaluated as complete response (CR) if no pain, partial response (PR) if 2 or more points decrease in pain, Stable disease (SD) no improvement in BPI score and progressive disease (PD) as increase in BPI score, after 3 months of treatment.

Results
The median age was 56 years (range 25 - 84 years). Fifty six (46.7%) patients had prostate cancer and sixty four (53.3%) had breast cancer. The response of pain after 3 months of radiotherapy was CR in 25 (20.8%) patients, PR in 48 (40%), SD in 29 (24.2%) and PD in 18 (15%) patients. The efficacy of treatment was 60.8% with CR 20.8% and PR 40%.

Conclusions
Single fraction palliative radiotherapy of 8Gy has shown significant efficacy in painful bone metastases in our setting and merits further investigation in our population.

KNOWING, GNAWING AND ANNOYING CANCER PAIN IN THEWARDS: A 2 YEAR AUDIT OF INDOOR PATIENTS FROM A TERTIARY URBAN CENTRE IN INDIA.

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Introduction
Pain is a debilitating symptom that adversely affects the quality of life of indoor cancer patients in India.

Objectives
To measure and assess the problem:
1. The burden of pain in cancer patients referred to the pain and palliative care unit
2. Analgesic consumption pattern
3. Outcomes—effects and adverse effects
4. Neuropathic pain prevalence
To devise solutions to deal with the problems identified.

Methods
We audited 2006 electronic records of indoor patients referred to the pain and palliative care department from a tertiary hospital in urban Mumbai from 2013 and 2014. A screening form measured the following:
1. Diagnosis and general condition
2. Symptom prompting referral
3. Pain intensity at 1st visit
4. Analgesic prescription at time of 1st visit
5. Analgesic usage during the hospital stay
6. Outcome during pain management

Results
Severe cancer pain was the single largest symptom prompting referral to the team. A significant number of patients were on inadequate opioid analgesia. Virtually none of these patients received anti-neuropathic pain medications. Many of these patients received neuropathic pain medications subsequently. Sedation was the most common reasons for withholding analgesics. Sicker patients were often in more pain.

Conclusions
Cancer pain is a debilitating and dominating symptom in indoor patients for supportive care. Neuropathic cancer pain is an unaddressed but treatable issue in the wards. Sicker patients ironically may not get enough pain relief. Management strategies designed at addressing this problem will improve quality of life and possible outcomes in cancer care.

eP060

REAL-WORLD UTILIZATION OF DARBEPOETIN ALFA IN CANCER CHEMOTHERAPY PATIENTS IN CURRENT CLINICAL PRACTICE
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Introduction
There is a paucity of data showing post-2011 regulatory change on practice patterns of erythropoiesis-stimulating agents among patients with chemotherapy-induced anemia in the US.

Objectives
This study provides an understanding of darbepoetin alfa (DA) dose patterns in cancer patients undergoing myelotoxic chemotherapy after 2011.

Methods
Using a proprietary outpatient oncology database, we conducted a retrospective cohort study. Metastatic solid tumor cancer patients receiving concomitant myelosuppressive chemotherapy and DA with an associated hemoglobin <10g/dL during 2011–2015 were identified. The analysis was restricted to the first course of chemotherapy with DA use for each eligible patient. Initial, maintenance, weekly and cumulative doses of DA were examined across all DA users. Subgroup analyses were conducted by chemotherapy type, baseline hemoglobin level, year of chemotherapy, solid tumor type, and initial dosing schedule. Differences in weekly doses across subgroups were evaluated using Wilcoxon rank-sum tests.

Results
Among 835 eligible patients, over 90% were ≥50 years old. Mean chemotherapy course duration was 248 days. The mean (SD) weekly DA dose was 110 (44) µg. Patients received a mean of 4.3 DA injections in the first chemotherapy course. There were no statistically significant differences (all P values >0.05) in weekly dose by chemotherapy type or baseline hemoglobin level (figure below) or by year or solid tumor type (data not shown).

Conclusions
The average weekly DA dose among metastatic cancer patients with chemotherapy-induced anemia was only 110µg. The estimate did not differ over time, across chemotherapy regimens, baseline hemoglobin levels and solid tumor types.

eP061

FACTORS INFLUENCING THE INITIATION OF STRONG OPIOIDS IN CANCER PATIENTS ON PALLIATIVE CARE: AN AUDIT FROM A TERTIARY CANCER CENTRE IN INDIA
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Introduction
A significant proportion of cancer patients on palliative care require some form of analgesia. However need for strong opioids in these patients is inconsistent and unpredictable.

Objectives
To evaluate the factors influencing initiation of strong opioids and duration of their use in palliative care patients.

Methods
Case records of 187 patients registered for palliative care at our centre between January and April 2015, were retrospectively analysed. Factors influencing initiation of strong-opioids and duration of strong-opioid free interval were evaluated using multivariate analysis.

Results
Median age was 55 years. 60% of the patients were male; 40% were female. 84.5% of the patients had pain, while only 16% required strong opioids like morphine or fentanyl. Radiation was given for palliation of pain in 65% of patients. Median duration of treatment with strong-opioids
was 47.5 days, while median morphine free interval was 29 days. Age of the patient, stage at diagnosis and requirement of weak opioids at the time of registration had significant correlation with initiation of strong opioids (p<0.05). Marital status of the patient, income, disease burden at the time of palliative care registration and use of palliative radiation had significant impact on the duration of strong-opioid free interval in our study.

Conclusions
Use of strong-opioids for adequate analgesia is not a necessity for all palliative care patients at our centre. Optimal utilisation of adjunct analgesic modalities like radiation, coupled with good supportive care can minimize the requirement and duration of strong-opioid use, especially in developing countries with limited access to specialist palliative care.

cP062
CLINICAL INSIGHT: SCALENE SYNDROME AND ITS RELEVANCE IN POST MASTECTOMY PAIN
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Introduction
Post-mastectomy pain syndrome (PMPS) is a chronic pain lasting more than three months after breast cancer surgery after other causes such as chronic infection has been excluded. It has a significant negative impact on physical and psychological quality of life. The incidence may vary from 23% to as high as 53%. The pain described is mainly of a neuropathic nature with sensory and motor disturbances in the shoulder, axilla and radiating down the medial aspect of the arm till the fingers.

Objectives
Bring to light a myofascial syndrome called Scalene Syndrome (SS). Myofascial pain mechanism and its effective management.

Methods
This is a clinical presentation of our experience in treating patients with this syndrome. Patients with persistent upper limb neuropathic pain post mastectomy, where extensive investigations and medications did not provide relief of pain were referred to the Pain and Palliative Care Department. These patients were diagnosed with SS based on a detailed history and physical examination and appropriate interventions were performed.

Results
The patients were all relieved to a great extent with interventions, which included stretch exercises, relaxation methods including yoga and changes in posture. Details of the results will be presented at the conference.

Conclusions
This syndrome has particular relevance in Post mastectomy pain. Increased awareness of SS as a cause of post mastectomy pain syndrome would prompt a clinician to identify, diagnose and treat SS appropriately, thereby preventing misdiagnosis and providing adequate pain relief.

cP063
A RETROSPECTIVE REVIEW OF CANCER

PATIENTS RECEIVING SUBCUTANEOUS LIGNOCAINE INFUSION FOR PAIN
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Introduction
Intravenous lignocaine has been shown to be effective in treating neuropathic pain. Limited studies have assessed the effectiveness and safety of subcutaneous lignocaine infusions (SLI).

Objectives
To determine the efficacy and safety of SLI on cancer patients.

Methods
We conducted a retrospective review using medical records of patients who received SLI at a comprehensive cancer centre over a 4-year period. Patient characteristics, pain scores before and after the SLI, morphine oral equivalent (MOE) doses before and after the SLI, and the details of the SLI were recorded. We also performed a subjective assessment of the effectiveness of SLI.

Results
Twenty-three patients (15M:8F) had received SLI with 2 patients having 2 repeated episodes. The average number of analgesic adjuvant therapies was 3.7. The average lignocaine dose used was 0.73mg/kg/hour. The median worst pain score in the 24 hours prior to commencing subcutaneous lignocaine was 8, and the median worst pain score in the last 24 hours whilst remaining on the SLI was 5.5 (p value <0.0001). Fifteen (68%) patients experienced a decrease in pain scores of more than 2, while 7 (32%) patients did not. The median MOE dose pre SLI was 450mg, and the median MOE dose in the last 24 hours whilst on SLI was 400mg but this was not statistically significant (P value =0.23). SLI was deemed effective in 12/25 (48%) episodes. There were no safety concerns based on the medical records review.

Conclusions
SLI can be used safely in cancer patients and is effective in some patients.

cP064
ASSESSMENT OF ADEQUACY OF PAIN MANAGEMENT IN ADVANCE CANCER PATIENTS
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Introduction
The State of Punjab is experiencing rising burden of cancer. The cancer prevalence in the southern Punjab is about 1089/million/year, higher than national average.

Objectives
The objective of this study was to estimation of the prevalence of inadequate cancer pain management in advance cancer patients.

Methods
Adequacy of pain management, that is Pain Management Index (PMI) calculated for each patient. It is simple indexes
which usually indicate a connection of the reported level of pain to the potency of the analgesics prescribed.

**Results**

211 patients were recruited with most prevalent cancer type was Genitourinary, diagnosed in 28.7% patients, followed by breast cancer 23.1% and Head & neck cancer 20.3%. Among 211 cancer patients 76.85% patients had inadequate pain management and 23.14% had better control of pain. Association of inadequacy of pain were done with age, gender, occupation, family history, duration and cancer types. Table-1

**Conclusions**

Our inadequate pain management prevalence rate of about 78% was far too high so this study will highlight the importance of true status of cancer pain management. It also emphasized that systematic recording of pain intensity and follow up further enhance the entire pain management mechanism including dose titration to change of new formulation.

**eP065**

**PAIN MANAGEMENT IN CASES OF CANCER CERVIX BY WHO STEP LADDER PROTOCOL**

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**Introduction**

Pain is a common debilitating symptom in women suffering from cancer cervix. It occurs in 25-50% of patients with newly diagnosed malignancies and in more than 75% of those with advanced malignancies. Yet it is one of the most unattended problems in developing countries. There is a large number of women being diagnosed in advanced stages and lack of awareness and sensitivity about palliative care adds to the problem. As a result the patients suffer from poor quality of life.

**Objectives**

To assess the magnitude of problem of pain and to evaluate response to pain management according to WHO stepladder protocol in cases of cancer cervix.

**Methods**

It was a prospective cohort study conducted in the department of Obstetrics and Gynaecology, King Georges Medical University, Lucknow, India. It included patients of cancer cervix having pain. Patients having severe debilitating illness and those having undergone surgery within two weeks were excluded. Severity of pain was assessed by using visual analogue scale. Pain was managed according to WHO step ladder protocol for pain.

**Results**

Total 61.1% patients of cancer cervix presented with pain. Success rate of WHO pain management protocol was 95.3%. Oral morphine was found to be an effective drug which was easily titrated and had a favourable benefit to risk ratio.

**Conclusions**

Pain is a dominant problem in women suffering from cancer cervix. Following WHO step ladder pattern effective alleviation of pain problem can be achieved. Morphine can be safely used in these women.

**eP066**

**OPIOID PHARMACOGENOMICS AND CANCER PAIN**

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**Introduction**

Recent genetic research provides new information regarding opioids and cancer pain management.

**Objectives**

To highlight the recent discoveries and their potential implications.

**Methods**

A search of the major medical databases for relevant articles.

**Results**

A historical perspective on the use of opioids for cancer pain includes the discovery of the newer opioid toxicities. The practice of 'opioid rotation' and the 'sequential opioid trial' are part of current practice along with the rediscovery of methadone and the availability of more strong opioid options. The era of personalized medicine reveals new information on opioid metabolism including pharmacodynamics, pharmacokinetics, receptor affinity and pain modulation. Single nucleotide polymorphisms are shown to cause important differences in response to opioids. The variability of opioid metabolism is reflected in the cytochrome P450 system especially 3A4 and 2D6.

**Conclusions**

New information from genomic research has implications for optimizing opioid management.

**eP067**

**MANAGEMENT OF CHILDREN WITH LIFE LIMITING CONDITIONS IN TWO COUNTY HOSPITALS WESTERN KENYA REGION**

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**Introduction**

Community mobilization and outreach activities to comb out all children with Burkitts Lymphoma (BL) in Western Kenya Region had not only resulted into BL cases presenting to the Health Center but also a huge number of children with life limiting conditions presenting to these facilities and needing attention. Children with terminal illnesses not only face the challenges of pain but of rejection by peers and community members who do not understand their plights but relates their dilemma with a taboo or a bad omen that has befallen the family. These children are really stigmatized especially those who have body image disturbance.

**Objectives**

This is an experience paper highlighting the plight of children that presented with life challenging conditions in 2
county hospitals in Western Kenya where treatment of childhood cancers and blood disorder are currently being initiated.

Methods
Pain management, management of distressing symptoms is provided by a team of health workers that include physicians, nurses, social workers, physiotherapists and nutritionists who see these children both in the out patient pediatric clinics and in the community during outreach activities.

Results
Out of the 300 children registered in these facilities, a good percentage has reported improvement in quality of life through their guardians or parents most of them, having been orphaned by HIV/AIDS.

Conclusions
A strong structure for management of children with end stage disease should be put on the ground which can only be achieved through collaboration and networking. Capacity building is a key in identification of children who need supportive care.

eP068
CUT POINTS FOR MILD, MODERATE, AND SEVERE PAIN AMONG CANCER AND NON-CANCER PATIENTS: A LITERATURE REVIEW
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Introduction
Defining cut points (CPs) for varying levels of pain intensity is important for assessing changes in patient’s functional status, and guiding the development and evaluation of treatment options.

Objectives
We aimed to summarize CPs identified in the literature for mild, moderate, and severe pain on the numeric rating scale (NRS), and recommend optimal CPs for cancer and non-cancer patients.

Methods
We searched MEDLINE and EMBASE (inception to May 2015) for studies that used CPs to classify pain intensity on the NRS among patients with cancer or non-cancer conditions leading to acute or chronic pain. A CP was defined as the upper bound of a mild or moderate pain category.

Results
Of 1,556 identified articles, 27 were included for review. Among patients with cancer pain, mild-moderate pain CPs ranged from 1 to 4 (mean, 3.5±1.08), with CP4 being the most recommended CP (80%). For moderate-severe pain, CPs ranged from 4 to 7 (mean, 6.2±0.92), and CP6 (50%) was the optimal CPs. Among patients with non-cancer pain, mild-moderate pain CPs ranged from 2 to 5 (mean, 3.62±0.78), and CP4 was the most frequently used CP (52.9%). For moderate-severe non-cancer pain, CPs ranged from 4 to 8 (mean, 6.5±0.99), and CP6 (41.2%) was the most frequently recommended CP.

Conclusions
A wide range of CPs for mild, moderate, and severe pain categories were identified in the literature among both cancer and non-cancer patient populations. Further studies are needed to delineate more accurate and precise CPs for pain intensity.

eP069
AN EXPLORATORY STUDY ON THE EFFECTIVENESS OF “CALMARE THERAPY” IN PATIENTS WITH CANCER-RELATED NEUROPATHIC PAIN: A PILOT STUDY
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Introduction
Calmare therapy (CT) has been suggested as a novel treatment for managing chronic pain. Recently, it was reported to show a positive therapeutic outcome for managing neuropathic pain condition.

Objectives
We performed an exploratory prospective study on the effectiveness of CT in patients with various types of cancer-related neuropathic pain (CNP).

Methods
We performed an open-labeled, single-arm, exploratory study on the effectiveness of CT in patients with various types of cancer-related neuropathic pain (CNP). The primary endpoint was a comparison of the 11-point Numerical Rating Scale (NRS) pain score at one month with the baseline score in each patient. Brief Pain Inventory (BPI) rating scale (NRS) pain score at one month with the baseline score in each patient. Brief Pain Inventory (BPI) and consumption of opioid were also evaluated during follow-up period.

Results
CT significantly decreased NRS pain score at one month from baseline (p<0.001) in 20 patients with chemotherapy-induced peripheral neuropathy (n=6), metastatic bone pain (n=4), and postsurgical neuropathic pain (n=4). It also improved overall BPI scores, decreased consumption of rescue opioid (p=0.05), and was found satisfactory by a half of patients (n=10, 50.0%).

Conclusions
Our preliminary results suggest that CT may be considered for cancer patients with various types of CNP. Large studies are necessary to confirm our findings and ascertain which additional CNP show positive response to CT.

eP070
EFFECT OF ACUPOINTS-PRESSING AND ABDOMINAL MASSAGE ON PREVENTING OPIOID INDUCED CONSTIPATION IN THE TREATMENT OF CANCER PAIN
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Introduction
Pain is one of the most common simultaneous symptoms in patients with advanced cancer, leading to the three steps analgesic ladder for cancer pain management developed by WHO. Opioids are the most potent analgesics, available for moderate to severe pain of cancer patients. But the side effects of gastrointestinal peristalsis inhibition and glandular secretion reduction bring about almost 90% patients suffering constipation without any intervention. According to the modern Chinese medicine theory, acupoints-pressing and abdominal massage can directly and indirectly increase the gastrointestinal peristalsis and glandular secretion, which may ameliorate the side effects of opioids.

Objectives
The aim of this study is to discuss the effect of acupoints-pressing and abdominal massage on preventing opioid induced constipation in the treatment of cancer pain.

Methods
From April, 2014 to October, 2015, a total of 200 patients treated with opioids for cancer pain were included and randomly divided into two groups. Patients in the control group were only given the general cares including diet intervention, defecation training and psychological care, while the treatment group were also given acupoints-pressing and abdominal massage besides the general cares, and the acupoints including Zhigouxue, Zusani and Tianshuxue.

Results
All the patients did not have the disorder of defecation before opioid therapy. But after two weeks of the treatment, 63% patients (63/100) in the control group had constipation compared with 28% patients (28/100) in the treatment group (P <0.05).

Conclusions
Acupoints-pressing and abdominal massage can effectively prevent opioid induced constipation in the treatment of cancer pain.

eP071
THE IMPACT OF PSYCHOLOGICAL INTERVENTION PROGRAM IN IMPROVING PSYCHO-SEXUAL HEALTH OF MARRIED WOMEN WITH BREAST CANCER IN KHARTOUM STATE
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Introduction
Psychological and sexual disturbances affect many aspects of the life of Breast Cancer (Br Ca) women. This is mainly due to treatment side effects, especially surgery.

Objectives
This study investigates the impact of psychological intervention on the improvement of psychosexual life of married women with Breast Cancer (Br Ca).

Methods
Quasi-experimental approach was used and a total of 59 women with Br Ca were investigated. Of those 29 were the experimental group (E) and the control group (C) was 30 respondents. Watts Sexual Function Questionnaire (WSFQ), Hospital Anxiety Scale (HADs) and the researcher’s questionnaire were used as investigator tools in this study. The intervention program included seven sessions for the experiential group and each session lasted for 2 hours.

Results
Unlike group (C), the experimental group (E) showed improvement in post test scores of the psychosexual measures.

Conclusions
The study established the positive impact of psychological therapy on the improvement of psychosexual health of women with Br Ca.

eP072
IMPLEMENTING EDUCATIONAL RESOURCES INTO ROUTINE PRACTICES OF RURAL ABORIGINAL HEALTH WORKERS: THE CANCER HEALING MESSAGES FLIPCHART EXPERIENCE
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Introduction
Aboriginal and Torres Strait Islander people from regional and remote South Australia and the Northern Territory who are diagnosed with cancer are often required to travel to Adelaide to access specialist cancer care services. Presently, Aboriginal Australians experience higher rates of cancer mortality, and lower 5-year survival rates than non-Aboriginal Australians, with both outcomes more pronounced in regional and remote populations.

Objectives
In response to a lack of culturally appropriate resources, Cancer Council SA developed the Cancer Healing Messages flipchart and flyer to assist health professionals, particularly those working in regional and remote areas of South Australia, to explain cancer and the cancer journey to Aboriginal and Torres Strait Islander cancer patients.

Methods
To investigate the utilisation of the resources (including barriers), an evaluation survey was conducted among Aboriginal Health Workers and other health professionals working with Aboriginal clients in South Australia.

Results
The uptake and usage of the resources was low, despite the collaborative development with key stakeholders and reported high levels of acceptability. This presentation examines the usage, acceptability and awareness of the resource as well as barriers to uptake, and strategies to improve the sustainability of such resources in the Aboriginal and Torres Strait Islander population.

Conclusions
Effective and appropriate dissemination of resources in the Aboriginal community requires genuine collaboration, a
broad multifaceted approach and strong implementation plan to ensure utilisation is high and sustainable.

cP073

DON’T LET ME BE MISUNDERSTOOD! IMPROVING THE CHEMOTHERAPY EXPERIENCE FOR PATIENTS FROM CALD (CULTURALLY AND LINGUISTICALLY DIVERSE) BACKGROUNDS THROUGH ENHANCED COMMUNICATION

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Introduction

A cancer diagnosis and chemotherapy are stressful events for any patient, clear communication and education helps reassure and guide patients through complex pathways. Such support facilitates prevention and management of treatment-related morbidities. Communication barriers may prevent CALD patients from accessing equitable support.

Objectives

50% improvement in CALD patient identification within 6 months and implementation of targeted education/communication for these patients during chemotherapy

Methods

Chemotherapy referrals audited and multidisciplinary staff surveyed. Processes flow-charted to identify gaps/variations and explore cause/effects.

Consensus, weighted-multi-voting prioritised improvement strategies. Quality improvement “Plan-Do-Study-Act” applied to the following:

• CALD patient identification
• Effective/efficient use of interpreters
• Targeted multilingual communication/education resources

Results

Audit verified deficiencies in alerts for health-care interpreters (HI), surveys highlighted inconsistent use of HI & regular use of family/bilingual staff to assist translation. HI services hemwere used inefficiently (19% cancellation due to delays in staff/patient availability). Introduction of an interfaced-language-demographic data field enabled identification of CALD patients requiring interpreters (81% improvement). Education sessions were held to promote cultural awareness & staff compliance with health policy. Early alerts and standardised procedures streamlined HI use; cancellation reduced to 1.5% and increased use of telephone-HI services. Multilingual flip-chart developed to assist communication during chemotherapy enabling side-effect monitoring and supportive-care advice.

Conclusions

High local CALD demographics flagged a need to review service provision for this priority cancer population in NSW. Early patient identification allows planning for HI availability at treatment and review appointments. Strategies implemented assist staff-patient communication, enabling assessment and management of side-effects, reinforcing education and compliance monitoring during chemotherapy.

cP074

CLINICOPATHOLOGIC PATTERN OF CERVICAL PAP SMEARS

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Introduction

Cervical cancer is the third most common cancer in women, and the seventh overall. More than 85% of the global burden occurs in developing countries. According to a regional study in Nepal, cervical cancer makes up about 85% of all gynecologic malignancies.

Objectives

This study compares cytopathological findings of the cervical papanicolaou (PAP) smears using the revised Bethesda system (2001) and also weighs the cytopathologic findings with the clinical features.

Methods

This hospital based cross-sectional study, a total of 976 PAP smear obtained from Department of Cytopathology at BPKIHS over a period of one year were reported according to the Bethesda system. Relevant history and clinical findings were retrieved from the requisition form or by taking history from patients along with the per speculum examination.

Results

A total of 976 PAP smear cases were available but 54 (5.53%) cases had to be excluded since they were found to be inadequate. No significant relationship was observed between the age and the available outcome of PAP smear. Overall pelvic pain, per vaginal discharge and low back pain were the most consistently presented complaints from women seeking PAP smear test. This study had 74.8 percent inflammatory smear. Four cases (0.43%) were rendered as smears having epithelial cell abnormality which included the diagnosis of Adenocarcinoma, HSIL, LSIL.

Conclusions

In this study cervical PAP smear was able to differentiate inflammatory, benign precursors and malignant cases. So it is desirable to conduct routine PAP smear screening in all women of reproductive age regardless of race, ethnic background and socioeconomic status.

cP075

ASSESSMENT OF PRE AND POST RT PELVIC BONE DENSITY IN PATIENTS OF GYNECOLOGICAL MALIGNANCY UNDERGOING PELVIC RADIOTHERAPY: A PILOT STUDY.

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Introduction

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Low back ache (LBA) is often a complaint in follow up patients of gynecological malignancies who had undergone pelvic radiotherapy. Patients with gynecological malignancy who had undergone pelvic radiotherapy have been found to be having more number of fractures as has been inferred from some previous studies.

Objectives
We in this study tried to analyse the pelvic bone density changes, if any in gynecological malignancy patients undergoing radiation treatment (RT) and its correlation with LBA.

Methods
45 patients (25 ca cervix and 20 ca endometrium patients) were taken up for study. DEXA scan was performed pre and post 1 month of RT. RT dosage was 46 Gy/23# in 23 patients and 50 Gy/25# in 22 patients followed by 2 sessions of ICBT (9 Gy x 2 #, HDR). Results were analysed using SPSS software version 20.

Results
12/23 (52.17%) patients receiving 46 Gy/23 # and 17/22 (77.27%) receiving 50 Gy/23 # had significant bone density changes in pelvis as assessed on DEXA scan pre and post RT. Mean T score pre RT was +1 (range -1 to +2) while post RT mean T score was -1.5 (range -1 to -3). LBA was also found to be more in patients who had significant bone density changes.

Conclusions
Pelvic radiotherapy can cause changes in pelvic bone density in patients undergoing radiotherapy more so with higher dosage making patients symptomatic and liable to sustain fractures. This study paves way for pharmacological /other supportive care interventions required in patients undergoing pelvic radiotherapy.

eP076
IMPACT OF THE PATIENT EDUCATION SYSTEM AND FOLLOW-UP PLAN FOR METASTATIC MELANOMA PATIENTS TREATED WITH IPILIMUMAB
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Introduction
Ipilimumab is a breakthrough immunotherapy drug that advances treatment for metastatic melanoma (MM). It however can induce mild to severe immune related adverse events (irAEs) that take away the quality of life and health of the patient, making it imperative for early detection of symptoms of irAEs. To ensure the completion of the treatment, the researchers implemented an education system which is an individual session between the primary nurse and the patient, where the nurse goes over the mechanism of action of ipilimumab and its effect on the immune system; the follow up plan consists of a weekly phone call from the primary nurse for the duration of the treatment, which runs for twelve weeks.

Objectives
To determine the impact of the patient education system and follow-up plan on the incidence of irAEs.

Methods
Patients who were treated for metastatic melanoma with ipilimumab between October 1st, 2013 and October 31st, 2015 were identified by a Pharmacist using MEDITECH. A chart review was done to identify various irAEs and treatment history.

Descriptive data analysis will be used to describe the irAEs and determine the relationship between the incidence of irAEs and the patient education system and follow-up plan.

Results
Preliminary results indicate that out of 19 patients surveyed, only two patients reported adverse events that were identified early during the weekly follow up, preventing changes in the treatment protocol.

Conclusions
These results are encouraging and the goal is to compare them with those from another center using similar approach with MM patients treated with Ipilimumab.

eP077
ASSESSING THE SUPPORTIVE CARE NEEDS OF CANADIAN MELANOMA PATIENTS AND SURVIVORS ATTENDING AN OUTPATIENT CLINIC
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Introduction
Recently the treatment options for metastatic malignant melanoma have rapidly evolved with significant improvement in overall survival. However patient education has lagged behind in providing details on different treatment options to the patient. An environmental scan also confirmed a lack a proper educational programs and support groups for melanoma patients in the Durham region.

Objectives
To assess the supportive care needs of melanoma patients and survivors attending an outpatient clinic. Then based on the identified needs, to develop an educational program to address the education gap and needs for melanoma patients

Methods
Patients were recruited for this study both prospectively and retrospectively. Prospectively, those who were eligible were referred by their treating physician. The principal investigator explained the study to them and consent was obtained for the sociodemographic questionnaire, needs assessment survey and the focus group. Retrospectively, survivors of melanoma were contacted via mail with a consent form, the socio-demographic questionnaire, and the needs assessment survey. Those who consent to the focus group will meet at a pre-determined venue and time to answer questions about the educational program developed based on the needs identified from the survey.

Results
The research is still undergoing. As of now, 59 respondents completed the survey, 38 males and 21 females. They
identified the following priority educational needs: psychological, health care systems and information items, sexuality, physical and daily living.

Conclusions
The above identified needs will be used to develop the educational program that will be qualitatively assess by those who accepted to participate in the focus group.

cP078

SUPPORTIVE CARE FOR ABORIGINAL YOUTH AFFECTED BY CANCER: BUILDING UNDERSTANDING FROM NARRATIVES TO IMPROVE SERVICE PROVISION

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Introduction
During critical developmental periods in childhood, adolescence or young adulthood, a personal cancer diagnosis or that of a close family member can lead to high levels of distress and unmet needs, with potential for long term negative implications. The Aboriginal population in Australia is relatively young (21yo median). Compared with other Australians, Aboriginal people entering the health system for cancer treatment tend to be younger, have more advanced and more lethal types of cancers and are more likely to have offspring who are children, adolescents or young adults (hereafter Aboriginal youth).

Objectives
To identify issues for Aboriginal youth affected by cancer in regard to unmet needs and supportive care.

Methods
Guided by an Aboriginal Community Reference Group, 59 narratives from Aboriginal people affected by cancer (patients, survivors, carers, family) and cancer service providers were examined. Where reference was made to Aboriginal youth (<25yo) affected by cancer; N-vivo was used to code themes around unmet needs and supportive care.

Results
Aboriginal youth were considered vulnerable to psychological distress due to isolation, family separation and grief. Strong family support and access to youth-oriented supportive care ameliorated these effects. In many cases, the needs of Aboriginal youth were not met in relation to maintaining family connections throughout treatment and accessing appropriate support.

Conclusions
This research highlights many issues faced by Aboriginal youth affected by cancer. More work is required to understand and address the complex supportive care needs of Aboriginal youth, particularly those under 18yo. With these objectives, collaborations between CanTeen, UniSA and SAHMRI are now underway.

cP079

EVALUATIONS ON ECONOMIC OUTCOMES IN BREAST CANCER PATIENTS

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Introduction
Breast cancer is a very commonly diagnosed cancer among women. Quality of life is one focus when evaluating the patient centered outcomes. Different drug combinations have their effects on the quality of life. A Pilot study for Evaluation of outcomes of Breast cancer, with special focus on Economic, different modalities of treatment is conducted in a tertiary care hospital setting at Udupi district of Karnataka, India. The objective was to conduct an outcome study on breast cancer treatment and compare outcomes among the modalities of treatment studied.

Objectives
A prospective, observational, and open labeled study based on echo model in Breast cancer patients

Methods
The mean age of participants was 49.65(SD=9.011). Education included illiterate (25.92%), primary education (22.22%), secondary education (48.14%), and university (3.70%). The marital status included married, cohabiting (81.48%) and widowed, (18.51%). The disease stage according to pathological grading of tumors was grade I (none), II (29.62%), III (40.74%), and IV (14.81%). All patients were treated with a multimodality approach

Results
Patient interviews and chart review were held to study the economic outcomes was utilized . Twenty-seven subjects diagnosed at different stages of the disease were studied.

Conclusions
The average cost of treatment for module I (ACx4cycles chemo,INR.1.00 lakh), module II(8 cycles ACx4+taxolx4 chemo INR.1.57 lakh) and module III(6 cycles FAC chemo INR.1.09 lakh).

eP080

THE CONTOURS AND CULTIVATION OF COMPASSION: ADVANCED CANER PATIENTS PERSPECTIVES ON SYMPATHY, EMPATHY, AND COMPASSION AND THE FEASIBILITY OF COMPASSION TRAINING

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Introduction
Patients differentiate compassionate care from empathy and sympathy, suggesting that compassionate care is a core competency of healthcare education. But how do they compare and contrast these constructs? To what extent do patients believe compassion is teachable? What training methods do they suggest using and what role do the inherent qualities of healthcare trainees have in this process?

Objectives
The presentation will report on a subset of a larger qualitative study on compassion. Qualitative data focused on patients’ views on training healthcare providers in compassionate care and how patients differentiate and experience compassion, sympathy and empathy will be presented.

Methods
Qualitative interviews with 53 advanced cancer patients were conducted and analyzed independently by members of the research team in accordance with Straussian Grounded Theory producing several themes and sub-themes.

Results
Patients identified sympathy as a pity-based response rooted in a lack of understanding. Empathy was a more personalized response based on acknowledgment and understanding of the persons needs and an affective response. Compassion was a virtuous response that seeks to address the suffering of a person through relational understanding and action. In addition three categories of compassion training emerged: compassion aptitude, cultivating compassion and training methods.

Conclusions
Determining the unique features and impact of sympathy, empathy and compassion from the perspectives of patients is important for the development of clinical training that is patient centred and clinically effective.

eP081
A HOME BASED PALLIATIVE CARE AND EDUCATIONAL MODEL FOR SUPPORTIVE CARE IN INDIA
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Introduction
Supportive care and palliative care are issues of growing concern in India. There remains a need to raise public awareness about supportive and palliative care. To provide cost effective symptom management and nursing care for patients suffering from chronic diseases including cancer, Dardsatya is an initiative by a bunch of palliative medicine trained experts in India.

Objectives
Dardsatya aims to provide and promote supportive care to improve the quality of life of patients suffering from cancer and non-cancer disease and also focus on accessibility of supportive care to individuals who need it.

Methods
The services include pain management at home, symptom control, guidance for medical treatment, nursing care, psychosocial help, emotional support and counseling. Education and training was given to improve awareness and sensitize people about basic palliative care services across 11 hospitals.

Results
Till January 2016, we visited 119 patients for home care, 47 patients were provided with nursing care at home. Pain and palliative care education and training were given to more than 700 nurses including doctors to improve awareness about palliative care. Psycho-social and spiritual counselling was done to improve the quality of life. End of life care was given to 32 patients at home and 13 patients in the hospital.

Conclusions
There is a need for more quality supportive care initiatives in India. Dardsatya is aiming to provide local solutions to local problems and sensitize healthcare workers in supportive care. Visit www.dardsatya.com to know more about supportive care in India.

eP082
INTERNATIONAL COLLABORATORS FOR SUPPORTIVE EDUCATION BEYOND BOUNDARIES
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Introduction
The Educational project called “Beyond Boarders” supports health professionals in the development of clinical skills and knowledge in safe handling and administration of antineoplastic drugs and related waste in a community hospitals located in Kerala, India, where limited educational resources are available. Lack of knowledge in preparation, administration, and handling could lead to a sentinel error. Consequences of antineoplastic drug errors are devastating as these agents have one of the lowest therapeutic indices and safety margins of any drug class.

Objectives
were to provide education on safe-practice that was very crucial to quality care.

Methods
Baseline knowledge was assessed and a 3-day chemotherapy certification program with 12-nurses based on the concepts/curriculum of Oncology Nursing Society’s “Chemotherapy and Biotherapy Guidelines/Recommendations for Practice”. A clinical competency checklist was developed for skills evaluation. Additional resources were provided during implementation period such as an extravasation order form, ideas to create an extravasation drug kit, anaphylactic management, preparation guidelines, administration practices, medication safety measures, safe handling and disposal requirements.

Results
After assessment and observation of nurses’ medication administration skills, results indicated the development of policies using informed consents, obtaining protocol from providers, medication calculation/verification, independent double-checking, infusion pump safety and high alert medication practices.

Conclusions
Anticipated outcome is to expand knowledge and skills for other nurses to manage safe chemotherapy administration. Standardization and competency is critical for patient/nurse safety. Increased awareness for nurses to follow occupational safety measures, and enhancement of knowledge in chemotherapy administration is important in these settings in Kerala, India.

eP083

AN EVALUATION OF SUPPORTIVE CARE WEBINARS FOR PEOPLE AFFECTED BY CANCER AND HEALTH PROFESSIONALS
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Introduction
Technology provides an opportunity to engage with a variety of audiences to provide cancer education, information and support. Webinars allow live presentations by experts that can be accessed online, from people’s homes.

Objectives
Evaluate the effectiveness of webinars to engage new audiences, and provide evidence-based information, practical resources and self-management strategies.

Methods
In 2015 Cancer Council Victoria (CCV) undertook a program of work to design and evaluate a suite of webinars. Six webinars were conducted. Four were designed for people affected by cancer, two for health professionals. Webinar format was purposeful and standardised. It included a series of expert presentations, a panel discussion, and an interactive component where participants posed questions to the webinar panel.
Evaluation included analysis of online metrics and a post-event survey covering experience and satisfaction with the webinar, self-reported changes in knowledge of key webinar concepts, and confidence to discuss concepts with health professionals or patients. Results
A total of 438 people attended the webinars (41.5% of 1056 registrations), 207 post-event surveys were completed by attendees (47.3%). Overall, 90.1% indicated that the webinar content was relevant to their interests and needs. Self-ratings of knowledge, awareness of resources, and confidence to discuss webinar topics increased after the webinar. Over half of respondents (52.8%) had not accessed CCV resources before. The majority (63.9%) had not participated in a webinar before, and 92.6% were interested in participating in future webinars.

Conclusions
Webinars are an effective, acceptable, accessible and sustainable vehicle for delivering information and support to people affected by cancer and health professionals.

eP084

COLLABORATIVE PHARMACOTHERAPY INVOLVING PHYSICICIANS AND PHARMACISTS AIMED AT IMPROVING ADHERENCE IN EVEROLIMUS THERAPY FOR ADVANCED/RECURRENT BREAST CANCER AND ITS OUTCOMES.
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Introduction
In everolimus therapy for advanced or recurrent breast cancer, measures against adverse events (AEs) are of the utmost importance.

Objectives
The outpatient unit of the cancer center at our hospital is implementing collaborative pharmacotherapy involving physicians and board-certified oncology pharmacy specialists with the aim of improving adherence. We report herein its outcomes.

Methods
Subjects were 37 patients who were orally administered everolimus at our hospital between April 2014 and January 2016. For patients in the pharmacist intervention group, QOL over a 6-month period was prospectively measured on a self-report basis using the EQ-5D-5L and VAS, and medical costs were investigated. For QOL and medical costs, summary statistics were calculated and analysis of variance was performed. Time to treatment failure (TTF) was calculated using the Kaplan-Meier method.

Results
In the pharmacist intervention group, the treatment continuation group with no disease progression exhibited no reduction in QOL and was able to continue treatment. Because the pharmacist intervention group had received continuous intervention and strict supportive therapy from the start, the frequency of stomatitis was significantly lower compared to the non-intervention group. Continuous intervention by pharmacists was thought to alleviate AEs, significantly prolong TTF, and contribute to treatment.
Regarding the cost effectiveness of intervention by pharmacists, the additional medical cost per QALY gained (incremental cost-effectiveness ratio; ICER) should ideally be within the socioeconomically acceptable range.

Conclusions
Therefore, our results suggest that early AE management provided by oncology pharmacists is particularly important to assure safety and efficacy of everolimus therapy.

eP085

EXPLORING FACTORS INFLUENCING UNCERTAINTY IN ILLNESS AND QUALITY OF LIFE IN WOMEN UNDERGOING BREAST CANCER
**eP086**

UNDERSTANDING THE SELF-CARE EXPERIENCES OF PATIENTS WITH NASOPHARYNGEAL CARCINOMA ON MANAGING THE NUTRITION IMPACT SYMPTOM CLUSTER DURING RADIOThERAPY

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**Introduction**

Previous study has identified the nutrition impact symptom cluster experienced by patients with nasopharyngeal carcinoma (NPC) during radiotherapy (RT). The six symptoms within the nutrition impact symptom cluster include mouth/throat sore, difficulty swallowing/chewing, problem with mucus, problem with teeth or gums, problem with tasting food, and constipation.

**Objectives**

To investigate NPC patients’ self-care experiences on managing the nutrition impact symptom cluster undergoing RT with/without chemotherapy (CTX)

**Methods**

This study adopted a descriptive qualitative design. First-treated Chinese NPC patients, who were undergoing RT and experiencing the nutrition impact symptom cluster, were recruited for face-to-face semi-structured interviews from a large cancer center in China. Interview data were tape-recorded, transcribed verbatim and analyzed using content analysis.

**Results**

A total of 25 NPC patients (mean age, 40.92 years; 64 % male) participated in the interview. Five categories reflecting various aspects of patients’ self-care experiences on managing the nutrition impact symptom cluster emerged from the qualitative data. These categories included impact on eating, patients’ self-care practice, the role of traditional Chinese medicine (TCM), problems existing in patients’ self-care practice, and information needs on self-care.

**Conclusions**

NPC patients’ self-care on managing the nutrition impact symptom cluster was unsatisfactory. It was found that patients lacked self-care knowledge and skills and had unmet information needs. A tailored and culturally specific educational intervention program on providing self-care knowledge and skills, as well as psychological support is warranted in the future.

**eP087**

BARRIERS EXISTING IN THE MANAGEMENT OF THE NUTRITION IMPACT SYMPTOM CLUSTER IN PATIENTS WITH NASOPHARYNGEAL CARCINOMA DURING RADIOThERAPY

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¹The Chinese University of Hong Kong, The Nethersole School of Nursing, Hong Kong, Hong Kong- China

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NPC patients’ self-care on managing the nutrition impact symptom cluster was unsatisfactory. It was found that patients lacked self-care knowledge and skills and had unmet information needs. A tailored and culturally specific educational intervention program on providing self-care knowledge and skills, as well as psychological support is warranted in the future.
system: high workload, knowledge deficiency of health professionals, and budget issues; (2) barriers related to patients: communication barriers, passive attitudes, and unsatisfactory self-care practice; and (3) barriers related to other people: incompetence of caregivers and rumors from outsiders.

Conclusions
Barriers of managing the nutrition impact symptom cluster in NPC patients during RT were identified from the perspectives of health professionals. Findings of the study could be used to inform the development of an educational intervention program to manage the nutrition impact symptom cluster in the future.

eP088
DECREASE IN PALLIATIVE PERFORMANCE SCALE SCORE DURING 1 WEEK PREDICTS SURVIVAL IN ADVANCED CANCER PATIENTS
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Introduction
Palliative Performance Scale (PPS) is a widely-used tool for measuring performance status of patients in palliative care settings. PPS is also known as a good prognostic tool for estimating survival. Recently, there were some studies announcing possibility of changes in PPS score as a prognostic tool.

Objectives
We aimed to investigate if a decrease in PPS score during 1 week predicts survival in advanced cancer patients of South Korea.

Methods
This study was prospective cohort study. Subjects were 73 patients admitted in Chungnam National University Hospital, South Korea from August 2015 till January 2016. PPS was measured at admission and 1 week later. Survival time was calculated as days from enrollment to death during admission. Kaplan-Meier survival curves were drawn for 3 groups (0%, < 50%, ≥ 50% decrease comparing initial PPS score). Cox regression analysis was performed after adjusting age, sex, diagnosis, treatment history and initial PPS score.

Results
Survival times of 0%, < 50% and ≥ 50% decrease comparing initial PPS score were 27.00±7.85, 14.00±3.73 and 10.00±1.35 days, respectively (p<0.001). Differences in survival times was still significant in subgroup analysis, i.e. in initial PPS score 10-30 and 40-50 groups. When compared to 0% decrease, < 50% decrease and ≥ 50% decrease increased hazard ratio 2.83 (95% CI, 1.06-7.56) and 22.72 (95% CI, 6.33-81.50), respectively.

Conclusions
The greater decrease in PPS score during 1 week predicts the shorter survival time.

eP089
PROSPECTIVE CLINICO-DOSIMETRIC EVALUATION OF FATIGUE AMONG HEAD AND NECK CANCER PATIENTS TREATED BY INTENSITY MODULATED RADIOTHERAPY.
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Introduction
Fatigue is a major distress for patients of head and neck cancer (HNC). Recently Intensity modulated radiotherapy (IMRT) implicated in increased fatigue correlating to CNS structures dosimetry. We have published IMRT dosimetric data on CNS structures (Basu T et.al. Clin Cancer Investig J 2015:4:216-9).

Objectives
The current study correlates CNS structures dosimetry and Brief fatigue inventory (BFI) scale scores in quantifying fatigue.

Methods
28 non nasopharyngeal HNC patients (postoperative-7 and radical -21) were administered BFI before and after completion of IMRT. Likert type scale BFI has score 0-10 (no -worst fatigue). There are sub-divisions on mood, activity and enjoyment of life score 0-10. Dosimetry of CNS structures like brainstem (BS) and posterior fossa (PF) were recorded. Analysis was done using Spearman correlation between CNS structures dosage and BFI score.

Results
Twenty patients had preexisting fatigue and commonest score was 3. Almost all had post IMRT fatigue with median score of 6. Mood and social life were mainly affected. The Spearman correlation (Sp) suggested that dose maximum (Dmax) of BS and PF linked directly to post IMRT fatigue score (0.028-BS and 0.051-PF) and worst fatigue score (0.008-BS and 0.033-PF) respectively. CNS dose more than 40 Gy had higher fatigue score.

Conclusions
IMRT dosimetry of CNS structures is an important step for better quality of life. Future larger prospective effort with serial BFI scoring and eliminating confounders like chemotherapy, comorbidities would help in reducing fatigue to HNC patients.

eP090
DOCETAXEL-RELATED FATIGUE IN MEN WITH METASTATIC PROSTATE CANCER, A DESCRIPTIVE ANALYSIS
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Introduction
Docetaxel is increasingly being used in the treatment of metastatic prostate cancer (mPCa). Fatigue is common in cancer patients and can negatively affect quality of life. Anecdotal case reports have speculated that docetaxel may cause severe fatigue. This study aimed to assess baseline and docetaxel-related fatigue, using a validated tool in mPCa patients.
**Introduction**

Fatigue is a prevalent, debilitating side effect of docetaxel chemotherapy in metastatic prostate cancer, which can persist despite treatment cessation.

**Objectives**

A detailed understanding of the temporal pattern of docetaxel-related fatigue can provide a framework for timely interventions, like modafinil.

**Methods**

This secondary analysis was performed using the data from MOTIF, a phase III, randomized, double-blind, placebo-controlled study of modafinil (200 mg/d for 15 days) for fatigue.[i] The pattern of fatigue was analysed in men with metastatic prostate cancer, using the mean MDASI (MD Anderson Symptom Inventory, 11-point fatigue assessment tool) scores. Fatigue-related symptoms were assessed using the SOMA6 (physical symptoms and fatigue) subset of the SPHERE (somatic and psychological health report).

[i] Hovey E et al. Phase III Randomised, double-blind, placebo-controlled study of modafinil for fatigue in patients treated with docetaxel-based chemotherapy for metastatic prostate cancer. Supportive Care Cancer 2013 Dec 17

**Results**

Across four docetaxel cycles, fatigue scores were consistently higher from day one to seven and peaked at day five, regardless of modafinil exposure (Figure 1). Men randomised to modafinil had consistently reduced fatigue scores, compared to placebo. Older men, current and ex-smokers had higher fatigue scores. A reduction in somatic distress was evident after the first cycle of docetaxel, regardless of modafinil.

![Mean MDASI scores/cycle day compared across 4 cycles](image)

**Conclusions**

Management of docetaxel-related fatigue remains an important challenge. Modafinil shows promise. Timely interventions, like modafinil, targeted to larger numbers of ‘at risk’ groups may prove beneficial. An understanding of the temporal pattern of fatigue, outlined here, is critical.

**References**

1. Hovey E et al. Phase III Randomised, double-blind, placebo-controlled study of modafinil (200 mg/d for 15 days) for fatigue in patients treated with docetaxel-based chemotherapy for metastatic prostate cancer. Supportive Care Cancer 2013 Dec 17

**Introduction**

Cancer-related fatigue (CRF) is the most prevalent symptom in cancer patients. However, there is no study to explore fatigue management and its effectiveness reported from patient perspective.

**Objectives**

The study was to explore current the most used fatigue management and its effectiveness among Taiwanese cancer patients.

**Methods**

A national survey with cross-sectional design was conducted. Mixed types of cancer patients with active treatment or survivors (N=1207) were recruited from 20 hospitals in Taiwan. A set of questionnaire was used to collect patients’ demographic and clinical characteristics, fatigue, and fatigue management survey. Logistic regression was used to examine the effectiveness of the top 5 rank of fatigue intervention treatments in CRF.

**Results**

In overall, 92% patients had the feeling of fatigue during cancer trajectory, and 83.5% of them had ever tried interventions to overcome fatigue. Only 56.2% patients had been actively discussed fatigue with healthcare providers. Besides, the top 5 rank of fatigue management were non-pharmacological treatment, including nutrition supplement(52%), sleep (51.6%), exercise(47.3%), Energy conservative and activity management (ECAM) (46.0%) and relaxation(36.2%). Patients who do not use the ECAM (p <.000; 95% CI: 1.338~2.392) and relaxation (p=.0140; 95% CI: 1.081~2.024) had a 1.8 and 1.5 folds increased risk of CRF compared with those used the interventions, respectively.

**Conclusions**

The majority of cancer patients had tried to resolve CRF. ECAM and relaxation has been reported the most effectiveness for them. Further validation and comparison.
the results in different cultures is suggested to examine the effectiveness of exercise.

e092

SYMPTOMATOLOGY OF CANCER RELATED FATIGUE AND IMPACT ON QUALITY OF LIFE OF PALLIATIVE CARE PATIENTS IN A TERTIARY CANCER INSTITUTE: A PROSPECTIVE OBSERVATIONAL STUDY
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Introduction
Fatigue with other symptoms affects quality of life (QOL) in advanced cancer patients.

Objectives
To identify factors associated with fatigue, its impact on QOL at baseline and predictors of improvement of same at first follow-up visit.

Methods
A prospective, observational study was conducted in the outpatient palliative care clinic from January to June 2014. Registered adult advanced cancer patients meeting the inclusion criteria (ECOG 0-3, ESAS fatigue score >/=1) were assessed after taking informed consent for symptom burden (ESAS) and QOL (EORTC-QOL) along with demographic details. They were given standard treatment for those symptoms. They met the team or were telephonically contacted for the same domains after an interval of 15-30 days. Descriptive statistics, comparison of baseline and follow-up data, correlation and multiple linear regressions between fatigue and symptoms at baseline, logistic regression model to determine factors associated with improvement in fatigue were performed.

Results
402 subjects were assessed at baseline and follow-up (median age, 52 years; 51.6% male). Significant improvement in fatigue score was observed (p<0.001) at follow-up. Hemoglobin, albumin levels, type of cancer, sites of metastasis, ECOG score, body weight, ESAS items except drowsiness, overall QOL, emotional functioning and constipation were found to be significantly associated with fatigue at baseline (p < 0.05). The logistic regression model showed that changes in hemoglobin and albumin levels, pain, dyspnea, physical functioning, insomnia on QOL scale significantly contribute to fatigue improvement.

Conclusions
Fatigue is strongly associated with certain physical, emotional and biochemical parameters; some of which are predictive of its improvement.

e093

POOLED ANALYSIS OF TREATMENT-RELATED FATIGUE WITH ANTI-PD-1/PD-L1 THERAPIES IN CANCER PATIENTS

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Introduction
Blockade of programmed death 1 (PD-1), or its ligand, PD-L1, could restore T-cell immunity. Anti-PD-1 or anti-PD-L1 antibodies have demonstrated promising efficacy in the treatment of cancer patients. The toxicity spectrum of PD-1/PD-L1 blockers is distinct from chemotherapy or other target agents.

Objectives
This study aims to investigate the overall incidence of treatment-related fatigue with anti-PD-1/PD-L1 therapies in cancer patients.

Methods
A systematic search of literature up to January 2016 was performed in EDPINE, EMBASE, and Cochrane databases to identify relevant clinical trials. Paired reviewers independently selected articles for inclusion and extracted data. Pooled incidence was calculated using Comprehensive Meta-analysis.

Results
A total of 31 clinical trials with 6437 patients were included. The overall incidence of all- and high-grade fatigue in cancer patients receiving anti-PD-1/PD-L1 therapies were 25.3% (95% CI, 11.2% to 28.9%) and 2.9% (95% CI, 1.0% to 2.6%), respectively. Adding anti-CTLA-4 antibodies to PD-1/PD-L1 blockers led to increased incidence of high-grade fatigue (8.2% vs. 1.6%, p<0.001), but not all-grade fatigue (26.6% vs. 25.1%). When stratified by cancer type, trial phase, drug category or drug dosage, no notably differences in the incidence of fatigue were seen.

Conclusions
Fatigue is commonly seen with anti-PD-1/PD-L1 therapies in cancer patients. Early and appropriate management is required to avoid unnecessary dose reductions and transitory or definitive treatment discontinuations.

e094

GENE EXPRESSION PROFILING OF INFLAMMATION AND IMMUNE RESPONSE PATHWAYS IN ONCOLOGY PATIENTS UNDERGOING CHEMOTHERAPY WITH DISTINCT EVENING FATIGUE TRAJECTORIES
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Introduction
Fatigue is the most common symptom associated with cancer treatment and has been associated inflammation and immune response (IIR). Recent work from our research group and others supports a role of IIR in fatigue. Additional work from our research group identified three groups of patients with distinct evening fatigue trajectories over two cycles of chemotherapy (CTX) (i.e., Moderate (20.0%), High (21.8%), and Very High (58.2%). Patients who were younger, had poorer functional status and higher comorbidity were more likely to be in the Very High class.
No disease and treatment characteristics predicted latent class membership.

**Objectives**
Examine differential IIR gene expression between latent classes of evening fatigue in oncology patients.

**Methods**
Oncology outpatients (n=582) receiving CTX were assessed over two CTX cycles (i.e., 6 assessments). Gene expression in peripheral blood was assayed using the Illumina HumanHT-12 microarray. Differentially expressed (DE) IIR genes and pathways were identified between Moderate (n=65) and Very High (n=195) classes. Similar whole-transcriptome patterns of DE were identified in public datasets.

**Results**
No DE IIR genes were found. 19 DE IIR pathways were found related to mechanisms, activation, signaling, and pathogen induction (e.g., “Toll-Like Receptor”, “IL-10 Anti-inflammatory Signaling”). “Antigen processing and presentation” was DE for KEGG, but not BioCarta data. Data mining found IIR studies with similar whole-transcriptome patterns (e.g., untreated vs. pathogen-infected peripheral blood monocytes).

**Conclusions**
The severity of evening fatigue is associated with expression changes in IIR pathways. Fatigue in oncology patients undergoing CTX may share common molecular mechanisms with non-fatigue IIR systems.

**eP095**

**PREVALENCE AND DETERMINANTS OF FATIGUE IN PATIENTS AFTER HEMATOPOETIC STEM CELL TRANSPLANTATION**

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**Introduction**
Long-term complications after hematopoietic stem cell transplantation are common and related with a considerable burden of symptoms and distress.

**Objectives**
To investigate physical, psychological and physiological factors associated with fatigue in patients after stem cell transplantation in a prospective longitudinal study.

**Methods**
Patients undergo a first assessment six months after autologous transplantation (auto-tx) or 12 months after allogeneic tx, and a follow-up assessment 6 months later. Assessments include fatigue, depression, anxiety, pain, sleep disorders, neurocognitive function, physical performance and resilience using validated measures. Laboratory assessments include polymorphisms of genes encoding for cytokines and neurotransmitter regulation.

**Results**
Forty-three subjects are enrolled since August 2015, 18 after auto-tx and 25 after allo-tx. Twenty had acute or chronic leukemia, 17 multiple myeloma, and six lymphoma. Fourteen patients (33%) experienced fatigue with a moderate to severe impact on daily activities (BFI: severity ≥4 and impact ≥5). Nine fatigued patients (64%) reported high levels of anxiety and depression, eight significant levels of pain (57%), ten were candidates for sleep diagnostics (71%), 8 for neurocognitive testing (57%), and seven (50%) had a very low physical functioning.

Preliminary analyses suggest that in a subset of patients fatigue is associated with pain, anxiety, sleep disorder, resilience and certain polymorphisms.

**Conclusions**
The data of this ongoing study demonstrate the importance of a thorough symptom assessment during the first years after stem cell transplantation. In a subset of patients, fatigue is associated with certain physical, psychological factors and biomarkers.

**cP096**

**APPLICABILITY OF INTERNATIONAL GUIDELINES FOR CANCER-RELATED FATIGUE IN AUSTRALIA: A DELPHI STUDY**

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**Introduction**
Several international guidelines for management of cancer-related fatigue (CRF) exist however their implementation is inconsistent. A recent Australian study reported that many oncology health professionals perceived a lack of treatment guidelines for CRF. Evaluation of guidelines suggested the Canadian 2015 fatigue guideline was the more appropriate for use in Australia.

**Objectives**
This study aimed to establish and enhance the applicability of Canadian fatigue guidelines for Australians with cancer.

**Methods**
The Delphi technique was used with input and oversight by a project reference panel. Separate surveys for Australian health professionals (HPs) and cancer survivors with experience of CRF were informed by knowledge transfer literature. Qualitative and quantitative data related to acceptability, feasibility and appropriateness of the guideline was collected. This paper reports on the HP results.

**Results**
Forty-eight Australian medical, nursing and allied health practitioners with at least three years’ relevant experience participated in the study. Implementation of the broad elements of the guideline was variable in current practice. Participants requested further detail for some areas and made suggestions for guideline format and resources. Specific details to facilitate guideline application were clarified. Two-thirds of participants were open to trial the guideline in its current form.

**Conclusions**
Key factors influencing the Australian HP’s adoption of guidelines were the integration with current systems, endorsement by leaders, published evidence of the guideline’s effectiveness and health professional education. Results will inform recommendations for an implementation trial.
eP097

EXPLORATORY STUDY ON ANTI-
INFLAMMATORY EFFECT BY FUCOIDAN FOR
ADVANCED CANCER PATIENTS
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Introduction
Fucoidan extracted from seaweeds has been found to exhibit broad biological activities such as anticancer and anti-inflammatory effects in basic research. Recently, a prospective randomized clinical trial revealed that fucoidan significantly reduced fatigue caused by chemotherapy (Cx) for advanced cancer patients. However, the mechanism of alleviating Cx-induced fatigue by fucoidan remains to be determined. Inflammation is known to be associated with fatigue in cancer patients.

Objectives
To determine whether fucoidan showed any anti-inflammatory effects for advanced cancer patients, we conducted this exploratory clinical study.

Methods
Study was carried out from January 2014 to February 2015 with Institutional Ethics Committee approval. Patients with advanced cancer were recruited to ingest 400ml/day of fucoidan for at least 4 weeks. The changes of some inflammatory biomarkers (CRP, IL-1β, IL-6, TNF-α), QOL score, and also overall survival (OS) were monitored.

Results
The average of CRP values showed no significant change during the study. However, the average scores of all the inflammatory cytokines (IL-1β), IL-6, TNF-α) significantly decreased over the first 2 weeks. Although QOL values including fatigue were not changed, OS of responders whose inflammatory cytokines decreased were superior compared to that of non-responders.

Conclusions
This exploratory study suggests that fucoidan could reduce the main inflammatory cytokines during the first 2 weeks. Although there is the limitation without control group, the anti-inflammatory cytokine effect might contribute to the reduction of Cx-related fatigue and also the longer survival. In future study, large controlled trials are required to confirm the efficacy of fucoidan as supportive care for cancer patients especially under chemotherapy.

eP098

CANCER RELATED FATIGUE IN PATIENTS
RECEIVING CHEMOTHERAPY; A SINGLE
INSTITUTIONAL STUDY FROM NORTHERN INDIA

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Introduction
Fatigue has profound disabling effect on patients receiving anticancer treatment. Though clinicians acknowledge the importance of regular assessment of fatigue; it is seldom being assessed and documented in Indian oncology practice; therefore remains unidentified parameter. Only few studies report Cancer-Related Fatigue among Indian population

Objectives
To find out prevalence and severity of cancer related fatigue and its implication on psychosocial wellbeing among Indian cancer patients.

Methods
An exploratory design was adopted, using a purposive sampling method, patients (N=206, M: 100 & F: 106) undergoing chemotherapy at Rajiv Gandhi Cancer Hospital and Research Center, Delhi, India; aged 18-83 years were included. The level of fatigue was assessed using 16-item Multidimensional assessment of Fatigue scale and a semi-structured in-depth interview, which were recorded, transcribed and analyzed.

Results
81% patients, (29% extreme and 52% moderate) experience clinically significant fatigue, more commonly reported in females. Apprehension of chemotherapy side effects (23.5%), fear of pain (18.5%), Loss of appetite (17.5%) and anxiety (13.5%), combination of multiple psychosocial issues and financial and logistic issues 11% each. 49.5% patients were aware of diagnosis, with 8% fully and 23% partially aware about prognosis.

Conclusions
Fatigue, more commonly reported in female, is neither assessed by clinicians nor reported by the patients on chemotherapy. Side effects of chemotherapy are major concern for majority, fear of pain, loss of appetite, anxiety or financial and logistic issues are also reported. Exercise, educational material and psychotherapeutic interventions should be developed, for better preparedness of side effects and management, disease coping strategies, and better quality of life.

eP099

A LONGITUDINAL STUDY OF HOPE IN WOMEN
WITH EARLY STAGE BREAST CANCER AND
FATIGUE
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Introduction
Hope is of great impotence for oncology patients’ quality of life and breast cancer patients’ level of hope appears to be related to fatigue. However, the level of hope in these patients has not been studied longitudinally.

Objectives
The aims of this prospective, longitudinal study were to investigate changes in level of hope in a sample of women with early stage (I or II) breast cancer and fatigue, and to compare hope scores for these patients with a sample from the general Norwegian population.

**Methods**

A total of 57 outpatients with fatigue (>2.5 on a 0–10 numeric rating scale, NRS) completed the Herth Hope Index (HHI) at the end of treatment (T1), after 1 (T2) and 4 months (T3). Data were analyzed using descriptive statistics, one-way analyses of variance (ANOVAs), and one-sample t tests.

**Results**

The mean age of the women was 55.3 years (SD = 9.4), 77% were married, and 63% were employed. The mean fatigue score (NRS) at study entry was 6.1 (SD 1.7). There were no statistically significant change in hope over time. The Norwegian oncology outpatients reported significantly higher total HHI scores than the general Norwegian population at all measurement times.

**Conclusions**

The higher levels of hope in the oncology inpatients with fatigue compared with the general Norwegian population may reflect a “response shift” in the patients’ evaluation of hope. Although the difference is relatively small, it may represent a clinically meaningful difference. Additional research is warranted.

eP100

**ASSESSMENT OF BARRIERS TO GOOD MEDICATION TAKING BEHAVIOUR IN METASTATIC PROSTATE CANCER PATIENTS RECEIVING ORAL ANTI-ANDROGEN THERAPY**

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**Introduction**

Adherence to oral anti-cancer medications (OACMs) is of increasing concern. The metastatic castrate-resistant prostate cancer population (MCRPC) is also generally advanced in age, with multiple co-morbidities and poly-pharmacy, further complicating the issue of adherence.

**Objectives**

The goal of this study was to explore patients’ experiences and comfort level with OACMs in light of complex medical histories.

**Methods**

This prospective, exploratory study included men with MCRPC starting treatment with abiraterone or enzalutamide. Baseline questionnaires, medication list, and semi-structured interviews were completed at the time of medication counseling followed by interviews at 24-48 hours and 1 month.

**Results**

We evaluated 11 patient responses and identified six key themes. First, patients felt confident in their ability to adhere to therapy because they linked medication taking to consistent daily events. Next, patients recalled discussing side effects and safe handling procedures, but were unable to remember specific side effects and management strategies. Long-term use of patient information documents varied, although participants appreciated when healthcare providers highlighted important points in these documents. Patient confidence increased when pharmacists provided storage and safety instructions in an individualized manner. Having a caregiver present during medication counselling was helpful, although patients still felt the amount of information was overwhelming.

**Conclusions**

This paper identifies strategies and techniques that optimize patient retention of information and understanding of their OACMs. These techniques can be used to increase confidence and ability to use medication knowledge, thus improving medication adherence.
tests to identify the impairment of the domain; 4. compare the tests available from the practical point of view; 5. select the bibliography and studies that have motivated the choice of the test selected by the geriatricians pair in each domain; 6. issue a joint opinion of the pair on the best test to use.

**Results**
The tools chosen for each domain are 1. social assessment: living alone, needed help to live at home or living in nursing home; 2. functional autonomy (: ADL and short-IADL; 3. mobility: walking speed; 4 nutrition: MNA-SF, with weight loss at 3 months and BMI; 5. cognitive assessment: Dubois’s 5 words and clock test; 6. thymic status: mini-GDS; 7 comorbidity: updated Charlson.

**Conclusions**
Short onco-geriatric assessment set has been validated by Dialog group scientific committee. It must now be used by onco-geriatric teams who participate in clinical trials and studies.

eP102

**AN ANALYSIS OF ELDERLY PATIENTS COMPLIANCE AND DISEASE DISTRIBUTION TREATED WITH RADIATION THERAPY**

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**Introduction**
We investigated disease distribution and analyzed treatment compliance for elderly patients who have received radiation therapy (RT).

**Objectives**
This study was performed to investigate disease distribution and treatment compliance for elderly patients who have received RT.

**Methods**
Among the patients who underwent RT from January 2005 to May 2014 in this hospital, the 670 patients aged over 75 were retrospectively analyzed in this study. We classified the patients by disease and analyzed the RT compliance for each disease.

**Results**
The disease distribution was as follows; Lung cancer in 127 patients (19.0%), metastasis in 123 patients (18.4%), gastrointestinal (GI) cancer in 116 patients (17.3%), gynecologic cancer in 110 patients (16.4%), head and neck cancer in 53 patients (7.9%), genitourinary cancer in 44 patients (6.6%), breast cancer in 30 patients (4.5%), and others in 67 patients (9.9%). The RT compliance in 670 patients was 82.6% (116 patients of all patients could not complete their course of scheduled treatment). According to the chi-square analysis, the factors found to be related to the RT compliance were; gender (p=0.001), disease type (p=0.014), and the patient’s ECOG score (p<0.001). Multiple logistic regression analysis showed that gender (p=0.016) and the patient’s ECOG score (p<0.001) were related to RT compliance.

**Conclusions**
Based on these preliminary results, more than 80% of elderly patients received RT for lung cancer, metastatic cancer, GI cancer, gynecologic cancer, head and neck cancer, and genitourinary cancer. This study showed that the most significant factor related to RT compliance was the patient’s functional status.

eP103

**ESTIMATING THE RISK OF Severe CHEMOTHERAPY TOXICITY IN ADULTS ≥65 YEARS: A STUDY COMPARING THE CARG SCORE WITH ONCOLOGISTS’ ESTIMATES OF TOXICITY**

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**Introduction**
The CARG Score estimates the risk of severe chemotherapy toxicity in older adults starting chemotherapy. Whether oncologists’ estimates of toxicity differ to those of the CARG Score is unknown.

**Objectives**
To determine the risk of severe (grade 3-5) chemotherapy toxicity for patients ≥65 years using the CARG Score and as estimated by their oncologist.

**Methods**
Patients ≥65 years completed an abbreviated geriatric assessment, including calculation of their CARG Score (0-19), prior to chemotherapy for a solid organ cancer (any stage). Treating oncologists were asked to estimate the probability of severe chemotherapy toxicity (0-100%) over the planned course. This abstract reports the first 40 patients of a larger prospective study comparing the utility of the CARG Score with Oncologists’ assessments in predicting chemotherapy toxicity.

**Results**
Between September 2015 and February 2016, 40 patients from 6 oncologists completed the baseline study assessments. The median age was 72yrs (range 65-86). Most patients were male (26, 65%), and having palliative chemotherapy (26, 65%) for stage IV cancer (24, 60%). The most common tumour type was colorectal (18,45%). The median CARG Score was 7 (range 0-14), with 10 (25%) being low-risk (defined as score of 0-5), 24 (60%) intermediate-risk (defined as score 6-9), and 5 (13%) high-risk (defined as score 10-19) (Figure 1). The median estimate for severe toxicity by oncologists was 35% (range 10-80%), (Figure 2) and differed to the CARG Score estimate for each risk group (Table 1).
Conclusions
Oncologists’ estimates of the risk of severe chemotherapy-related toxicity differed from the risk estimated by the CARG Score.

Introduction
The comprehensive geriatric assessment (CGA) is a multidimensional method used to detect and evaluate multiple age-related problems and to plan and coordinate proper interventions. Because its main drawback is the time required, efforts have been made to evaluate screening instruments suitable for preliminarily assessing elderly patients.

Objectives
The main aim of this study was to establish mini-CGA for cancer patients (MCGA-C) based on the relationships between CGA items and performance status. We developed MCGA-C consisted of a total of 14 questions which were extracted from the 5 domains of CGA.

Methods
Patients aged ≥ 65 years with cancer (n = 237) were evaluated by ECOG-PS and 5 domains of CGA: Instrumental Activities Daily Living, Mini Nutritional Assessment, Hospital Anxiety and Depression Scale, Charlson’s Comorbid Index, Mini-Mental State Exam. FACT-G was used a reference test. Selection process was done based on 200 patients’ data and the remaining 37 patients’ data were used for verification purpose.

Results
MCGA-C was a single tool without sub-scales. The validity was tested by ROC curve. The value of the area below ROC was 0.824 (95% CI: 0.764 - 0.874) with a statistically significant degree of accuracy (p<0.0001). Youden Index value of 55 points was determined as the poor health reference point. The discrimination ability of CGA and MCGA-C appeared to be quite similar.

Conclusions
On the basis of our data, MCGA-C is highly predictive of impaired functional status and can thus be considered a useful preliminary means of assessing older patients with cancer before undertaking a full CGA.

cP105
THE SENIOR TORONTO ONCOLOGY PANEL (STOP) STUDY
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Introduction
Improving the quality of care for cancer patients and their families requires patient engagement in their care and in research, so that they can be involved in setting research priorities and informing the design, conduct, dissemination and relevance of clinical studies.

Objectives
The aims of this study are to examine how we can engage older adults with cancer and their caregivers in research and their research priorities.

Methods
Older adults, age 60 and over, diagnosed with cancer and/or caregivers of an older adult with cancer were recruited across the Greater Toronto Area. Three public meetings were conducted to discuss research priorities. Five subsequent focus groups focusing in on engagement as co-researcher on research teams were held. From this a participant pool was established. Attendees completed a brief survey to obtain sociodemographic information and satisfaction.

Results
52 (33 older adults and 19 caregivers) attended a public meeting and 31 persons participated in focus groups. Participants ranged in age from 53-90 years old with various types of cancers and from pre-treatment to years post-treatment. Most had not participated in research before and had never been invited to participate. Most were interested in becoming research team members. The research priorities expressed included enhancing communication, how to combine conventional treatment with complementary and alternative medicine and nutrition.

Conclusions
This study provides insight into the research priorities of an understudied population—older adults with cancer and their caregivers—and the level of research engagement desired. It also sets the stage for future patient engagement in clinical studies.
medical conditions, 2 work). Median # sessions completed 19/20; median # of home practices reported: 35/36. Median satisfaction 10/10 for 10 assessed components. No adverse events. 17 impairments noted: (mean 5.27, SD1.97), neck (80%), shoulder (67%), posture (53%), frailty/deconditioning (53%), and jaw (53%). Exploratory efficacy analysis indicates potential benefit for pain, anxiety-depression, and ROM.

Conclusions
A modified yoga program in HNC pts is safe. Recruitment rates and satisfaction were high. Demographics of HNC pts did not limit recruitment. Significant limitations in movement requiring pose modifications were found. Preliminary efficacy data supports further investigation of yoga in this population.

eP109
MAINTAINING BEST PRACTICES THROUGH EVIDENCE-BASED LYMPHEDEMA TREATMENT GUIDELINES: UPDATE ON THE AMERICAN LYMPHEDEMA FRAMEWORK PROJECT'S SYSTEMATIC REVIEWS
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Introduction
The American Lymphedema Framework Project (ALFP) aims to assess and promote appropriate health care services for patients with all forms of lymphedema (LE) and advance the quality of care in the US and worldwide.

Objectives
One goal of the ALFP is to help develop and maintain evidence-based best practices LE treatment guidelines through a series of systematic reviews.

Methods
A research librarian assisted with searches of 11 major medical databases. Experts sorted relevant literature for inclusion/exclusion; included articles were sorted into topical areas for data extraction and assessment of evidence level using published grading systems and consensus process.

Results
From almost 6000 screened articles, selections were based on defined eligibility criteria for final review (n=1303) and categorization (n=659) by topic experts. Articles were rated according to a classification system evaluating methodological quality with consistent inter-rater reliability. Surgical treatment; exercise; self-management; palliative care; intermittent compression pumps; complete decongestive therapy; complementary/alternative therapy; psychosocial issues; economic and health policy; and botanicals reviews are in print (n=10). Wounds, assessment, risk-reduction, and complex cases remain in process and in review.

Conclusions
There is a paucity of rigorously-conducted research studies related to treatment of patients with and at risk for LE. In order to provide evidence-based practice guidelines, it is critical to design and test strategies using relevant patient-reported outcomes. It is also imperative to bring the scientific findings to the level of understanding and application by therapists, clinicians, patients, and families.

eP110
MOBILE PLATFORM FOR AT-HOME OBSERVATION, EARLY DETECTION, AND MANAGEMENT OF LYMPHEDEMA
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Introduction
Early detection and management of secondary lymphedema (LE) can significantly reduce the potential for symptoms and complications. Unfortunately, many patients fail to seek medical assistance at first signs of the disease. It is estimated that approximately 500,000 people in the U.S. suffer from lymphedema, and 2.4 million breast cancer survivors are at-risk for developing this chronic condition.

Objectives
To test the two completely automated measuring systems we developed (using an IR depth camera and a smart phone) for individuals to use at home or in the clinic for early detection and self-monitoring of LE.

Methods
Over 280 data points (upper limbs) were sampled from healthy people and LE patients to examine the correlation between the systems and the “gold standards” (water displacement and perometry); and to determine the reliability of both proposed methods. In comparison with water-displacement, 14 measurements of upper limbs from many repetitions for 7 healthy test subjects were done. Regarding the comparison with the Perometer, 34 upper limbs from 17 human subjects, including LE patients were done.

Results
The two completely automated and robust systems for 3D image of human arms outperformed existing methods in many aspects, including cost, maintenance and ease of use, while they maintained high correlations with the “gold standards”.

Conclusions
The systems will accurately assist patients in managing LE through early detection and monitoring at home. We will be doing further testing as we work to assess the ease of use by patients with variable levels of comfort with technology.

eP11

A COMPARISON OF SEGMENTAL TISSUE COMPOSITION CHANGES AND VOLUME CHANGES USED FOR THE ASSESSMENT OF SECONDARY UPPER EXTREMITY LYMPHEDEMA
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Introduction
We present our comprehensive method of lymphedema evaluation.

Objectives
We explored the relationships between arm volume, bioimpedance spectroscopy measurement of extracellular fluid levels, and ultrasound data on skin and subcutaneous tissue of patients with secondary upper extremity lymphedema.

Methods
A total of 141 breast cancer patients with secondary upper extremity lymphedema, who first visited our clinic between May 2014 and June 2015, were evaluated retrospectively. At the first visit, subcutaneous echogenicities were assessed at eight points on the upper arm and forearm of each affected arm using an 11-MHz ultrasound transducer. The echogenicity grades were defined as 0, 1, or 2. The grades correlated with the clinical stages of the International Society of Lymphology (ISL). We measured extracellular water (ECW) volumes by calculating bioelectrical impedances.

Results
Significant associations were evident among volume measurements (water displacement, direct calculations, and ECW ratios). Mild changes in forearm structure evident ultrasonographically were not associated with volume changes. Subjective symptoms were not significantly related to ECW ratios. The volumes differed significantly between patients at clinical stages 0 and 3, 1 and 3, and 2 and 3.

Conclusions
It is possible to evaluate subcutaneous echogenicity in patients with secondary upper extremity lymphedema and the echogenicity grades reflect the ISL stage. Total arm volume is not a useful measure of the severity of subcutaneous fibrotic changes associated with lymphedema. The subcutaneous echogenicity grades can be used to monitor lymphedema progress and severity more precisely, especially in the medial region of the forearm.
Introduction
CRT-induced SO contributes to OM initiation. GC4419 specifically mimics SOD’s dismutation of SO to H2O2, and attenuated OM in a pre-clinical model. Concurrent RT/cisplatin causes severe OM (SOM) in about 70% of OCC pts.

Objectives
Make an initial assessment of safety and anti-OM efficacy of GC4419.

Methods
Serial 3-6 pt cohorts; locally-advanced OCC receiving intensity-modulated (IM)RT approximately 70 Gy total (>50 Gy to > 2 oral sites), 2.0-2.2 Gy/fx M-F, plus cisplatin; plus escalating 60-minute IV doses of GC4419 M-F for 3-7 weeks. Assessments: safety; OM (WHO) twice weekly; GC4419 in plasma (lipid chromatography/mass spectrometry); circulating cytokines mechanistically related to OM (multiplex); 1-year tumor outcome.

Results
46 pts received GC4419, 15-112 mg/day. MTD was not reached. DLTs (Gr 3) @ 112 mg: gastroenteritis (3 wks); vomiting with hyponatremia (5+ wks). Gr 1 peri-infusional facial tingling appeared dose-related. SOM with GC4419 for 6-7 weeks at 30 or 90 mg/day (N=14) was markedly briefer (mean 2.5 vs 22-26 days), less frequent (28% vs 60% through week 6), and less severe (0 vs 23% Gr.4) than historical controls. Cmax and AUC were dose-related. Changes in cytokine levels appeared associated with OM severity and were consistent with known radiotoxicity pathogenesis. Tumor control did not appear compromised (follow-up ongoing).

Conclusions
GC4419 may reduce SOM, with acceptable toxicity. Cytokine changes were consistent with the GC4419 mechanism of action. A randomized, placebo-controlled Phase 2 trial is in progress with GC4419 doses of 30 and 90 mg/d.

cP113
PICROSIRIUS RED POLARIZATION METHOD TO EXAMINE CHRONIC CHANGES IN COLLAGEN DEPOSITION IN IRRADIATED INTESTINE
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Introduction
Radiation-induced fibrosis (RIF) in the intestines results from increased and altered collagen deposition, particularly in the submucosa and can result in stricture, fistula formation and bowel obstruction. The collagen profile can be characterised by picrosirius red staining; the colour displayed under polarising light is a result of both fibre thickness and arrangement of the collagen molecules.

Objectives
To assess changes to collagen deposition in a rat model of chronic fractionated radiation-induced intestinal injury using the picrosirius red polarization method.

Methods
Collagen fibres in colon and jejunum were analysed by histochemical staining with picrosirius red and examining birefringence through polarizing filters. Thin (<0.8µm) and thick (1.4-2.4µm) fibres were classified as either green, yellow or orange/red, organized or non-organized, dense or loose. Statistical analysis (one-way ANOVA) was performed using GraphPad Prism v6.0.

Results
Birefringence colours in irradiated colon showed significant increases (P<0.0001) in loosely organised, green and yellow thin fibres throughout the intestinal wall that correlated with increased total radiation dose, when compared to controls. Significant increases (P<0.0001) in thick fibres, that were both loose and disorganised green/yellow, and dense and organised orange/red, were observed in the colonic submucosa, and were fraction dose-dependent. These results did not reach significance in the jejunum.

Conclusions
The mix of birefringence colours, orientations and thicknesses suggest a complexity in collagen changes in radiation-induced fibrosis that is compounded by the fraction dose, or total dose received. Further studies (immunohistochemical) may underpin specific changes to collagen types, and provide a basis for possible intervention to prevent RIF.

eP114
POTENTIAL OF ST-617 TO PREVENT THE OCCURRENCE AND REDUCE THE DURATION OF SEVERE ORAL MUCOSITIS
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Introduction
ST-617, a dithiolethione, activates the transcription factor Nrf2. Nrf2 regulates genes that mediate oxidative damage and increase intracellular glutathione. ST-617 has the potential to prevent cellular damage induced by radiation and reduce oral mucositis.

Objectives
Identify a biomarker gene to further demonstrate that ST-617 activates Nrf2. Conduct a trial with ST-617 in patients receiving chemo-radiation.

Methods
Quantitative PCR on primary gingival cells with ST-617 measured the up-regulation by Nrf2 of glutamate cysteine lyase (GLGC) (Absorption Systems, Exton, PA).

An IRB-approved investigator-sponsored clinical trial
measured OMAS scores for patients given ST-617 or placebo on days of radiation treatment.

**Results**
GCLC was significantly enhanced in ST-617 treated gingival cells, supporting that the mechanism of action of ST-617 is via Nrf2 activation. A small, unpowered, clinical study was performed with patients undergoing chemoradiation for locally advanced head and neck cancer. Patients were treated with chemotherapy and weekly radiation. Patients were randomized to receive ‘best supportive care’ (BSC) or BSC + ST-617, 1 hour prior to each radiation treatment. Patients were evaluated according to the OMAS scale. There was a reduction of mean OMAS scores for both ulceration and erythema in the ST-617 group. The group size is insufficient to draw conclusions regarding efficacy, but was suggestive that ST-617 can reduce oral mucositis.

**Conclusions**
Mechanism of action data as well as preliminary clinical trial data compel the optimization of ST-617 as a cytoprotective agent to lessen the severity of oral mucositis. A Phase 1b/2a trial is scheduled to begin in 3Q2016.

eP115

NALOXONE ADMINISTRATION IS ASSOCIATED WITH INCREASED TUMOUR GROWTH FOLLOWING IRINOTECAN IN A RAT BREAST CANCER MODEL
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**Introduction**
Naloxone was investigated in our rat model of breast cancer due to the TLR4 antagonism of this agent hypothesised to provide protection from irinotecan-induced gastrointestinal mucositis (GIM). Whilst not effective at preventing GIM, naloxone has increased breast cancer cell growth in vitro.

**Objectives**
Determine the impact of naloxone on breast cancer growth in vivo following irinotecan.

**Methods**
Female tumour-bearing Dark Agouti rats (n=24) were assigned to one of the following treatment groups: control, naloxone, irinotecan, or irinotecan + naloxone. Naloxone was gavaged at 100 mg/kg 2 h prior to chemotherapy and every 24 h thereafter for 72 h. Irinotecan was administered as a single 175 mg/kg i.p. dose. Tumour growth was recorded daily. At 72 h, animals were killed and tumours collected for analysis. Apoptosis and expression of proinflammatory cytokines was visualised by immunohistochemistry.

**Results**
Tumour growth from baseline was significantly greater in rats treated with irinotecan + naloxone (239.5%) compared to irinotecan alone (142%, p<0.001). Tumour apoptosis in the non-necrotic regions, quantified as cells positive for caspase-3, was significantly reduced in irinotecan + naloxone treated rats (p<0.05). Qualitative scoring of immunostaining intensity for Tnf, Il-1b and Nf-kb was not different between groups.

**Conclusions**
The TLR4 antagonist, naloxone, reduced the efficacy of irinotecan in our rat breast cancer model. The mechanism underpinning this effect requires further investigation. Evaluation of anti-mucositis drugs in a tumour model provides an opportunity to identify potential pro-tumorigenic properties.
eP116

METHOTREXATE EFFICACY IS UNCHANGED BY NALOXONE IN A PRE-CLINICAL BREAST CANCER MODEL

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Introduction
Naloxone combined with oxycodone is used to manage opioid-induced constipation in patients with cancer pain. We have previously shown (-)-naloxone altered irinotecan efficacy in our rat breast cancer model.

Objectives
To determine the impact of naloxone on another chemotherapy specific for breast cancer.

Methods
Female tumour-bearing Dark Agouti rats (n=24) were assigned to one of the following treatment groups: control, naloxone, methotrexate or methotrexate + naloxone. Naloxone was gavaged at 10 mg/kg immediately prior to chemotherapy and every 24 h thereafter for 72 h. Methotrexate was administered as two 2 mg/kg i.m. doses 24 h apart. At 72 h, animals were killed and intestines and tumour collected for analysis. Tumour growth (% bodyweight), weight loss and organ wet weights were recorded as clinical outcomes.

Results
Methotrexate decreased tumour growth (p<0.0001), caused weight loss (p<0.0001) and decreased small intestine (p=0.03) and spleen (p=0.0007) wet weights compared to control animals. Naloxone had no impact on these effects of methotrexate.

Conclusions
In contrast to irinotecan, methotrexate efficacy and adverse clinical effects were not altered by naloxone. Further investigation into the dose-dependence of naloxone on tumour response with other chemotherapies is required to elucidate the selectivity of this interaction.

Introduction
Amifostine was approved as a protective agent against radiation-induced xerostomia in the late 1990’s and in 2016 it remains the only pharmacological agent proven to protect normal tissues of the head-and-neck area without impairing the anti-tumor efficacy of radiation therapy.

Objectives
What is its role with modern irradiation treatment modalities such as IMRT?

Methods
A panel of experts was invited to analyze safety and efficacy of amifostine based on historical and current randomized data to define its further usage. The dataset included 2 meta-analyses, 12 randomized studies, and 3 observational studies.

Results
IMRT and modern radiotherapy techniques have reduced the incidence of late xerostomia. However, acute xerostomia, which is a near-universal side effect even with modern techniques, contributes to the development of acute mucositis, loss of taste, dysphagia and malnutrition. The panel agreed that there is clinical evidence to support the ongoing use of amifostine in the following head and neck cancer patient subgroups: patients with weight loss or other forms of malnutrition, patients that are young, patients with a dose to the parotid glands of >25 Gy, or patients suffering from bilateral (N2c or N3) disease or an extremely large tumor (T4). Other groups to be explored further are re-irradiated patients (recurrent disease or second primary) as well as patients with high sensitivity for Cetuximab in radioimmunotherapy.

Conclusions
Cytoprotection with amifostine is a relevant treatment option. Further usage is recommended in defined subgroups of head and neck cancer patients, to improve quality of life and the effectiveness of irradiation.

eP118

LOW LEVEL LASER TREATMENT FOR THE MANAGEMENT OF ORAL MUCOSITIS: MECHANISMS OF ACTION, IRRADIATION PARAMETERS AND DOSE

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Introduction
Amifostine was approved as a protective agent against radiation-induced xerostomia in the late 1990’s and in 2016 it remains the only pharmacological agent proven to protect normal tissues of the head-and-neck area without impairing the anti-tumor efficacy of radiation therapy.

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IMRT and modern radiotherapy techniques have reduced the incidence of late xerostomia. However, acute xerostomia, which is a near-universal side effect even with modern techniques, contributes to the development of acute mucositis, loss of taste, dysphagia and malnutrition. The panel agreed that there is clinical evidence to support the ongoing use of amifostine in the following head and neck cancer patient subgroups: patients with weight loss or other forms of malnutrition, patients that are young, patients with a dose to the parotid glands of >25 Gy, or patients suffering from bilateral (N2c or N3) disease or an extremely large tumor (T4). Other groups to be explored further are re-irradiated patients (recurrent disease or second primary) as well as patients with high sensitivity for Cetuximab in radioimmunotherapy.

Conclusions
Cytoprotection with amifostine is a relevant treatment option. Further usage is recommended in defined subgroups of head and neck cancer patients, to improve quality of life and the effectiveness of irradiation.
Introduction

Introduction: The role of LLLT for the management of oral mucositis has been evaluated in many studies including randomised clinical trials. Subsequently the MASCC/ISOO guidelines have included LLLT as a recommended treatment option for the prevention of OM in haematopoietic stem cell transplantation recipients conditioned with high-dose chemotherapy, with or without total body irradiation, and suggested its use for the prevention of OM in patients undergoing radiotherapy, without concomitant chemotherapy, for head and neck cancer. The mechanism of action, and optimal irradiation parameters and treatment dose have been reported in other pathologies but are not well defined in OM.

Objectives

Objectives: To assess the mechanisms of action, optimal irradiation parameters, and treatment dose.

Methods

Methods: A systematic review was performed of in vitro and in vivo studies focusing upon mechanisms of action, and of irradiation parameters and dose used in RCTs of LLLT in OM.

Results

Results: An initial search returned 110 papers on LLLT treatments of oral mucositis, these were filtered to identify 29 RCTs and 12 papers on LLLT mechanism of action on OM. Studies provided evidence for a reduced inflammatory response (e.g., reduced COX-2 expression, reduced numbers of neutrophils), and improved wound healing (e.g., increased expression of growth factors, fibroblasts proliferation, increased angiogenesis). A dose response pattern could be established, although irradiation parameters appeared to be inconsistent.

Conclusions

Conclusion: There is evidence for LLLT efficacy in OM management, but reporting of irradiation parameters needs improvement. More studies are needed to provide a better understanding of LLLT mechanisms in OM management.

eP119

ASSESSMENT OF THYME HONEY ORAL GEL FOR THE PREVENTION OF CHEMOTHERAPY INDUCED ORAL MUCOSITIS IN PATIENTS WITH BREAST CANCER WHO ARE RECEIVING DOXORUBICIN AND CYCLOPHOSPHAMIDE

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Introduction

Oral mucositis (OM) is a common complication of cancer treatment (chemotherapy and/or radiotherapy) that characterized by painful erythematous and ulcerative lesions that has impact on patient quality of life and it can lead to infection. In patient with severe OM dose reduction or treatment interruption maybe considered which can impact the outcome of cancer therapy.

Objectives

A randomized clinical trial was carried out in order to evaluate the effect of thyme honey oral gel for prevention of chemotherapy induced OM.

Methods

117 breast cancer diagnosed patients who were received first cycle of chemotherapy with Doxorubicin (60 mg/m^2) and cyclophosphamide (600 mg/m^2) were randomly recruited in to two groups; group A were patients who following general oral hygiene recommendation and rinsing saline 3 times a day, group B were patients with similar protocol but supplied with our formulation take applied 2 to 4 times a day.Patients were assessed by medics prior to initiation and end of each cycle as well as patient for the period of 4 cycles by WHO grading scale and patient-reported oral mucositis symptom scale (PROMS).

Results

The primary analysis was performed. Among 4 cycles there is no significant difference between Intervention and control group. In the duration (P=0.576, P=0.545, P=0.609, P=0.687) and incidence (P=0.358, P=0.310, P=0.619, P=0.114) of OM as well as in the severity of OM except cycle 2 (P=0.105, P=0.030, P=0.657, P=0.583).

Conclusions

The overall positive effect of thyme honey is relatively low. In order to have more accurate result we need to complete our study.

eP120

ORAL CRYOTHERAPY IN CHILDREN RECEIVING HIGH DOSE CHEMOTHERAPY TO AVOID MUCOSITIS - IS IT FEASIBLE?

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Introduction

Oral mucositis (OM) is a debilitating and painful adverse effect of antineoplastic treatments. Oral cryotherapy (OC), cooling of the mouth during chemotherapy infusion, has been shown to reduce OM in adults.

Objectives

To evaluate the feasibility of OC in children receiving high dose chemotherapy (HDC).

Methods

High dose chemotherapy (HDC) to avoid oral mucositis.

References

A randomized clinical trial was carried out in order to evaluate the effect of thyme honey oral gel for prevention of chemotherapy induced OM.
Children, 4-18 years old, admitted for hematopoietic stem cell transplantation were asked to participate in a pilot randomized controlled trial investigating the effect of OC on OM. The first twenty children randomized to OC were included in this feasibility study. Children were instructed to cool their mouth with ice chips/ice cream during their chemotherapy infusions with no specific time limit. A nurse reported treatment time and the child answered a questionnaire after each session.

**Results**

Background data and compliance is presented in Table 1. Ten children used OC every time they received HDC, five children used OC half or more than half of the times and two children used OC less than half of the times. Three children did not use OC at all. On average, children using OC did so for 90 minutes per day (Figure 1). Reported perceived discomfort includes cold mouth, nausea, and bad taste. The most common reasons for not using OC was nausea, discomfort (e.g. cold mouth), and that the child was sleeping.

**Conclusions**

OC can be troublesome for some children but most of the participating children were able to use OC every, or more than half of the times they received HDC with little perceived discomfort reported.

eP121

TNF-α INHIBITOR ETANERCEPT DOES NOT ALTER THE SEVERITY OF METHOTREXATE-INDUCED GASTROINTESTINAL MUCOSITIS IN THE RAT

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**Introduction**

Gastrointestinal (GI) mucositis is a severe side effect of chemotherapy and radiotherapy. Pro-inflammatory cytokines are thought to play an important role in the pathophysiology of GI mucositis.

**Objectives**

We aimed to determine the effect of the TNF-α inhibitor Etanercept on the severity of mucositis in a previously established methotrexate (MTX)-induced GI mucositis rat model.

**Methods**

Male Wistar rats received a single iv injection of MTX 60 mg/kg at day 0. Rats were treated with a daily injection of either Etanercept (TNF-α inhibitor) 5 mg/kg or NaCl 0.9% sc from day -3 till day 3 (each n=10). Control rats (n=6) received NaCl 0.9% iv and Etanercept sc. The severity of mucositis was determined by intake, bodyweight, plasma citrulline, and by an oral glucose absorption test. At day 4 and day 10 rats were terminated. Villus length, crypt length, intestinal MPO and plasma Etanercept levels were determined.

**Results**

The administration of MTX induced mucositis in all rats. Etanercept did not cause a change in the degree of mucositis. Bodyweight, intake and glucose levels were not altered by Etanercept, villus length was comparable, and there was no difference in MPO and citrulline level. Etanercept levels in plasma were significantly increased in the Etanercept rats (p<0.05).

**Conclusions**

TNF-α inhibitor Etanercept did not alter the severity of mucositis in the rat, suggesting that only targeting the inflammatory pathway of TNF-α is not effective for decreasing the severity of GI mucositis induced by high dose MTX. Etanercept alone is not useful for the treatment of MTX-induced GI mucositis.

eP122

EFFECT OF ORAL INSULIN ON THE SEVERITY AND RECOVERY OF METHOTREXATE-INDUCED GASTROINTESTINAL MUCOSITIS IN THE RAT

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5Academic Medical Center, Amsterdam Diabetes Center, Amsterdam, Netherlands
6Academic Medical Center, Amsterdam, Netherlands
Introduction
Gastrointestinal (GI) mucositis is a severe side effect of chemo- and radiotherapy. Oral insulin has been suggested as possible intestinal growth factor and possible intervention for GI mucositis.

Objectives
We aimed to determine the effect of oral insulin on the severity and recovery of mucositis in a methotrexate (MTX)-induced GI mucositis rat model.

Methods
Male Wistar rats (n=24) received a single injection of 60 mg/kg MTX iv at day 0. From day -3 oral insulin was added to the drinking water. Group MTX received normal drinking water, group MTX+INS0.5 received 0.5 U/ml insulin and group MTX+INS1 received 1 U/ml insulin in drinking water. The severity of mucositis was determined by intake, bodyweight, illness and plasma citrulline. In the recovery phase the function of the gut was tested with an oral glucose tolerance test, and villus and crypt length of the small intestine were measured.

Results
MTX induced mucositis in all three groups and oral insulin did not cause a change in the severity of mucositis, with comparable bodyweight, food intake and water intake. Oral insulin did not alter the enterocyte mass, determined with plasma citrulline. The glucose level after bolus was higher in the MTX group compared to MTX+INS1 group (p<0.05). Histology was not significant different between all groups.

Conclusions
In contrast to an earlier study, oral insulin does not alter the severity or the acceleration of recovery of mucositis. Therefore, we conclude that it is not useful to further study oral insulin as possible intervention to prevent or treat chemotherapy induced GI mucositis.

eP123

PERCEPTION OF ORAL MUCOSITIS SYMPTOMS AND ITS IMPACT ON QUALITY OF LIFE IS DIFFERENT BETWEEN DOCTORS AND THEIR PATIENTS IN ASIA AND SAUDI ARABIA

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Introduction
Oral mucositis (OM) is a debilitating side effect of cancer therapy affecting both the patients’ quality of life as well as the disease management.

Objectives
This survey aimed at identifying the level of concordance between oncologists and patients regarding their perspectives of managing OM.

Methods
Patients on cancer treatment diagnosed with OM (n=175) and oncologist managing OM (n=105) were recruited from 6 Asian countries and Saudi Arabia in 2015. Patients completed a face-to-face interview and a self-completion questionnaire; physicians completed a face-to-face qualitative interview.

Results
Both patients and physicians consider therapy-induced OM equally important ranking it as one of the top 3 most important side effects to be managed. Oral ulcers/sores (74%), dry mouth (73%) and difficulty in swallowing (62%) were the most common OM symptoms reported by patients.

Physicians expect mild OM symptoms to last just over one week, while patients experienced symptoms for more than 2 weeks. For mild and moderate OM, physicians estimate experienced pain levels to be lower than patients’ actual experiences. Before cancer treatment, over 40% of physicians advised patients to practice good oral hygiene to prevent and manage OM and yet only 16% of patients acknowledged that medications were given before OM symptom onset; 87% mentioned that they would use medications, if prescribed.

Conclusions
Knowledge of the gap between physicians’ and patients’ perceptions of OM helps in better disease management. Raising awareness and proactive management of OM is needed to overcome this existing misalignment.

eP124

NO DETECTION OF MERKEL CELL POLYOMA VIRUS IN ORAL LICHEN PLANUS: RESULTS OF A PROSPECTIVE STUDY IN A FRENCH COHORT OF 22 PATIENTS

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Introduction
Oral lichen planus (OLP) is a chronic inflammatory disease which is considered as a CD8+ T lymphocyte-mediated autoimmun reaction directed against a self-antigen which may be of viral origin. Members of the human Polyomaviridae family are ubiquitous and can become pathogenic among immune-compromised individuals. In addition, Merkel cell polyomavirus (MCPyV) has conclusively been linked to Merkel cell carcinoma (MCC). More recent studies suggested a potential role of MCPyV in oral carcinogenesis and in cutaneous inflammatory disorders including lichen planus.

Objectives
Consequently, we investigated the presence of MCPyV in patients suffering from OLP.

Methods
We extracted DNA from formalin-fixed paraffin-embedded mucosal tissue blocks in 22 consecutive patients with different clinical presentations of active OLP (reticulated, atrophic, or ulcerated lesions). A polymerase chain reaction (PCR) was performed for MCPyV DNA analysis, targeting a part of the T antigen (LT3) and of the viral capsid (VP1).

Results
None of the 22 patients with OLP had detectable MCPyV infection.

Conclusions
Presence of MCPyV in oral mucosa has been detected in 20 to 69% of general population. Its potential role has been recently suggested in malignant tonsillar tumors, oral squamous cell carcinoma, or oral leukopaklia. However, implication of MCPyV or other human polyomavirus (BK and JC virus) in oral carcinogenesis or inflammatory mucosal disorders including OLP remains speculative. Our preliminary results do not support that OLP may be triggered by MCPyV infection. Further studies evaluating the involvement of other human polyomavirus in OLP pathogenesis are needed.

eP125

EFFECT OF PARTICLE SIZE OF REBAMIPIDE CRYSTAL ON THE DISTRIBUTION IN ORAL MUCOSA AND THE THERAPEUTIC EFFECTS AGAINST ORAL MUCOSITIS IN RAT
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Introduction
Rebamipide is an anti-gastric ulcer and anti-gastritis agent widely used in Japan and other Asian countries. We reported rebamipide liquid (RL), which is aqueous suspension of rebamipide, prevented rat’s oral mucositis induced by X-radiation in MASCC last year. But the best particle size of rebamipide was not evaluated yet.

Objectives
We examined the effect of particle size of rebamipide in RL on the distribution in oral mucosa and the therapeutic effect against oral ulcer in rat.

Methods
We prepared two types of RLs comprising micro crystals (mean particle size (mps): 10 μm) or sub-micronized crystals (mps: 0.1-0.2 μm). RLs were administered into normal oral cavity or oral cavity with glossitis induced by single X-radiation, and the distribution of rebamipide was evaluated by a fluorescent microscope. In order to assess the therapeutic effects, RLs or the vehicle control was administered in oral cavity of the rat bearing the ulcer induced by cauterization, and the ulcer areas were analyzed by digital images.

Results
Sub-micronized rebamipide appeared to distribute deeply into the normal oral mucosa. They also distributed deeply into the ulcer area in the glossitis model, whereas lower infiltration of rebamipide was observed in the erosion area. Sub-micronized rebamipide healed oral ulcer significantly, but micro-crystals did not.

Conclusions
Sub-micronized rebamipide showed better distribution in mucosa and therapeutic effect in the rat oral ulcer model. The directly distribution of rebamipide into ulcer area was considered to be important on the cure of oral mucositis.

eP126

SINGLE NUCLEOTIDE POLYMORPHISM (SNP) OF TAC 1 GENE IN PATIENTS EXPOSED TO RADIATION THERAPY FOR HEAD AND NECK CANCERS
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Introduction
The expression of neuropeptides (Tachykinin gene, TAC 1gene) in tissue reactions in cytotoxic therapy is mentioned in few preclinical and clinical studies, it has not studied effectively in clinical setting.

Objectives
To assess the Single nucleotide polymorphism in TAC 1 gene in head and neck cancer patients exposed to radiation treatment.

Methods

\[185\]
Study included 50 patients with carcinoma of head and neck undergoing radiation with tissue reactions were included, grading of the tissue reactions were done according to the NCI- CTC criteria; controls were normal individuals (n = 40) aged 20-30 years. Saliva samples were used to extract the DNA. The genotype and allelic distributions of the polymorphisms in the selected genes was assessed using PCR and thereby amplification of the specific point of the DNA, following this, sequencing of the gene was done. SNP genotyping of TAC 1 SNP (rs2072099) was done, the amplification fragment was sequenced and alleles were scored.

**Results**

Relevant segments of DNA containing the selected primary SNPs of TAC 1 gene was amplified by thermal cycling, sequenced using the (ABI 3730XL, Sanger sequencing methodology). We have tested and compared for the first time, whether the neuropeptides TAC 1 have a role in tissue reactions; the analysis of the SNPs in the gene regions of the neuropeptide TAC 1 may facilitate the predictor of a significant association in the tissue reactions in cancer therapy.

**Conclusions**

SNPs in the TAC-1 gene in radiation therapy could be considered as an indicator predicting the treatment outcomes and a perspective for targeted therapy studies.

eP128

**SEGMENT-SPECIFIC CHANGES OCCUR AT DIFFERENT TIME POINTS IN THE SMALL AND LARGE INTESTINE FOLLOWING IRRADIATION IN AN IN VIVO MODEL OF RADIOThERAPY-INDUCED GUT TOXICITY**


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**2Royal Adelaide Hospital, Medical Oncology, Adelaide, Australia**

**Introduction**

Radiotherapy-induced gut toxicity (RIGT) is a debilitating side effect of radiotherapy, associated with pain and rectal bleeding. Gut damage is yet to be fully characterised in fractionated irradiation models, and is hypothesised to vary based on region and time lapsed from last dose.

**Objectives**

Characterise the timeline of RIGT in a rat model of fractionated irradiation.

**Methods**

Dark Agouti rats were treated with a 6 week abdominal fractionated radiation schedule (3 x 2.5Gy doses/week, control rats sham irradiated). Rats were killed 3, 6, and 15 weeks from initial treatment (accumulated doses of 0, 22.5, or 45Gy). Sections of jejunum and colon were stained with H&E, AB-PAS, and Picrosirius red to assess damage, goblet cell composition, and collagen deposition.

**Results**

Histopathological damage was significantly increased in the colon of irradiated rats at week 3 (p=0.0431) typified by crypt disruption and inflammatory infiltrate. Collagen deposition and thickening of the microvasculature was observed in irradiated rats from week 6 in the jejunum and week 3 in the colon. Goblet cell counts were significantly decreased in the jejunum at 15 weeks (p=0.0167) and the colon at 3 weeks (p=0.0400).

**Conclusions**

Collagen deposition and goblet cell reduction occurred early in the colon and late in the jejunum, with significant histopathological damage occurring only in the colon, suggestive that this region is most susceptible to the damaging effects of radiation. Findings of this study highlight the need for assessment of the jejunum and the colon when utilizing animal models for the study of novel therapeutics.
HANGESHASHINTO PREVENTS ORAL MUCOSITIS UNDER CHEMORADIOTherAPY TO HEAD AND NECK CANCER
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Introduction
Oral mucositis induced by chemotherapy or radiotherapy causes a significant effect on quality of life and considerable morbidity. Hangeshashinto (HST), a traditional Japanese herbal medicine, mainly has been used as a medicine for gastroenteritis. Recently, some researchers reported that HST suppressed the oral mucositis, especially derived from chemo- or radio-therapy (CRT). Some molecular mechanisms of HST have been revealed. For instance, HST increases the amount of antimicrobial peptides (AMPs) and anti-inflammatory cytokines induced by the oral epithelial cells to prevent microbial infection and inflammation. On the other hand, the direct effects of HST to cell fate such as cell proliferation and cell migration are still unclear.

Objectives
The purpose of this study was to investigate the effect of HST on the oral mucositis derived from CRT for head and neck cancer. In addition, we analyzed the effect of HST on the cell cycle in oral epithelial cells (TR146).

Methods
Eight patients with HST and 8 patients without HST were evaluated under chemoradiotherapy for head and neck cancer using CTCAE ver.4, and we compared cell cycle with or without HST in TR146 cells.

Results
As result, the severity of oral mucositis of the patients with HST was significantly lower and the periods was shorter compared to the patients without HST. In addition, we elucidated HST promoted cell cycle in TR146 cells.

Conclusions
These results suggest that HST is effective for preventing oral mucositis and one of its mechanisms is involved in acceleration of cell cycle.

eP130
REGULATION OF INTESTINAL SECRETORY ACTIVITY IN AN IRINOTECAN-INDUCED MUCOSITIS TUMOUR BEARING DARK AGOUTI RAT MODEL
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Introduction
Alimentary mucositis (AM) is a common side effect of chemotherapy and radiotherapy. Inducible, epithelial and neural nitric oxide synthases (iNOS, eNOS and nNOS, respectively), vasoactive intestinal polypeptide (VIP) and prostaglandin E2 (PGE2) are associated with regulation of secretion.

Objectives
To determine if these secretory regulatory signals are associated with irinotecan-induced mucositis.

Methods
A single dose of 175 mg/kg of irinotecan intraperitoneally (ip) and 0.01mg/kg atropine subcutaneously (sc) were administered to tumour-bearing Dark Agouti (DA) rats. Rats were killed at times 6, 24, 48, 72, 96 and 120 h after treatment and samples of Jejunum and colon were formalin fixed. Immunohistochemistry and real time PCR were carried out to analyse iNOS, eNOS, nNOS, VIP, and PGE2. Statistical analyses were carried out using Kruskal-Wallis test with Dunns post-test, Mann Whitney U test and non-parametric regression. Effect size was determined using Cohen’s D test.

Results
Following irinotecan treatment, Immunohistochemistry showed iNOS positive goblet cell expression decreased significantly at 48 h compared with controls in the crypts of the jejunum (p < 0.05). VIP positive goblet cells increased in the villi at 96 h compared to controls, and PGE2 positive goblet cells increased at 24 h then decreased at 48 h and 72 h compared to controls. Real time PCR showed no change in iNOS, eNOS, or nNOS expression.

Conclusions
Irinotecan-induced mucositis is associated with altered secretory regulatory compounds, which may affect mucin secretion increasing the severity of irinotecan induced mucositis.

eP131
NEURON AND GLIAL CHANGE IS ASSOCIATED WITH IRINOTECAN-INDUCED MUCOSITIS IN A TUMOUR BEARING DA RAT MODEL
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*The University of South Australia, School of Pharmacy and Medical Sciences, Adelaide, Australia

Introduction
Cancer patients receiving chemotherapy often develop mucositis. The enteric nervous system is involved in regulating gut motility and secretion, and may be involved in mucositis.

Objectives
To determine whether enteric neural cells were altered following irinotecan treatment.

Methods
A single dose of 175 mg/kg of irinotecan intraperitoneally (ip) and 0.01mg/kg atropine subcutaneously (sc) were administered to tumour-bearing Dark Agouti (DA) rats. Rats were killed at times 6, 24, 48, 72, 96 and 120 h after treatment. Jejunum and colon samples were formalin fixed. Class 3 β-Tubulin (TUJ1, neuron cell body marker), glial fibrillary acidic protein (GFAP, glial cell marker), choline acetyltransferase (ChAT, cholinergic neuron marker) and neuronal nitric oxide synthase (nNOS, nitric oxide neuron marker) were investigated using immunofluorescence to determine which cell types were affected. Statistical analyses were carried out using Kruskal-Wallis test with Dunns post-test, Mann Whitney U test and non-parametric regression. Effects size was determined using Cohen’s D test.
Results
In the jejunum, glial cells (GFAP positive) increased significantly in irinotecan treated rats (18.1±2.0) compared with controls (9.5±2.3, p = 0.0440). Cholinergic neuron bundles (ChAT positive) also increased in irinotecan treated rats (1.8±1.5) compared to controls (0.5±0.3, p = 0.0491). In the colon there was no significant change.

Conclusions
This study shows irinotecan-induced mucositis to be associated with increases in myenteric cholinergic nerve bundles and glial cells. These changes are likely to contribute to the pathophysiology of mucositis through increased cholinergic signalling, and increased secretion and motility, which may contribute to altered intestinal function, including diarrhoea.

eP132
IS CRYOTHERAPY BENEFICIAL IN REDUCING THE INCIDENCE OF ORAL MUCOSITIS DURING AUTOLOGOUS TRANSPLANTATION IN PATIENTS WITH NON-HODGKIN LYMPHOMA RECEIVING HIGH DOSE MELPHALAN?

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Introduction
Oral mucositis (OM) is a frequent complication of high-dose melphalan (HDM) containing conditioning regimens used in patients with Non-Hodgkin Lymphoma (NHL) undergoing autologous hematopoietic stem cell transplantation (AHSC). In previous studies, oral cryotherapy significantly decreased OM, but there is limited information regarding its beneficial effect outside of clinical trials.

Objectives
Our aim was to evaluate the impact of a cryotherapy protocol (CP), adopted at our institution, in the incidence of OM in patients receiving HDM (140 mg/m²) as part of the conditioning regimen.

Methods
Seventeen patients follow the CP and were matched with a control group of 17 patients that received saline solution mouth rinses (SSR) 4 times a day. The CP group was instructed to dissolve ice chips in their mouth starting 15 minutes before the infusion of melphalan and continued for 90 minutes after completion of the infusion. All patients were assessed every other day for the development of oral mucositis, until they were discharged, according to the World Health Organization (WHO) mucositis scale.

Results

<table>
<thead>
<tr>
<th>Table</th>
<th>Saline Solution</th>
<th>Cryotherapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subjects, n</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Age, yrs</td>
<td>Median(range)</td>
<td>64 (52-75)</td>
</tr>
<tr>
<td>Male(n)</td>
<td>64 (8.3)</td>
<td>64.3 (5.4)</td>
</tr>
<tr>
<td>Gender, n (%)</td>
<td>Female</td>
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</tr>
<tr>
<td>Race/Ethnicity, n (%)</td>
<td>Caucasian</td>
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<tr>
<td>African Americans</td>
<td>2 (12%)</td>
<td>5 (29%)</td>
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<tr>
<td>Hispanic</td>
<td>3 (18%)</td>
<td>1 (6%)</td>
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<tr>
<td>Smoking, n (%)</td>
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<td>13 (78%)</td>
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<td>No (never)</td>
<td>2 (12%)</td>
<td>9 (54%)</td>
</tr>
<tr>
<td>Chemotherapy, n (%)</td>
<td>BEAM*</td>
<td>27 (100%)</td>
</tr>
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<td>Oral mucositis (WHO) N (%)</td>
<td>Grade 2</td>
<td>7 (42%)</td>
</tr>
<tr>
<td>Grade 1-3</td>
<td>15 (89%)</td>
<td>4 (23%)</td>
</tr>
<tr>
<td>Length of hospital stay</td>
<td>Median(range)</td>
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<tr>
<td>Mean(S.D.)</td>
<td>15.62 (2.24)</td>
<td>12.06 (2.47)</td>
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<tr>
<td>Days to HCT engraftment</td>
<td>Median(range)</td>
<td>10 (9-13)</td>
</tr>
<tr>
<td>Mean(S.D.)</td>
<td>10.86 (3.26)</td>
<td>9.69 (3.69)</td>
</tr>
</tbody>
</table>

* Gemcitabine, Bevacizumab, Carmustine, Melphalan

There was a two and a half fold difference in the incidence of OM between patients receiving cryotherapy (23%) and SSRM (59%) (p = 0.0365). No patients in the cryotherapy group developed Grade 3-4 (severe) OM. Of interest, patients who received cryotherapy engrafted significantly earlier than the control group (9.65 vs 10.59, p = 0.029).

Conclusions
Cryotherapy significantly lowers the incidence of OM when given during melphalan infusion in patients with Hodgkin’s lymphoma receiving BEAM as a conditioning regimen for AHSC.

eP133
DACOMITINIB-INDUCED DIARRHEA IS NOT PREVENTED BY TARGETING EXCESS CHLORIDE SECRETION WITH CROFELEMER IN A RAT MODEL

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Introduction
Dacomitinib is a pan-HER TKI in development for the treatment of NSCLC. The most common adverse event is diarrhea (96%), of which the underlying mechanism is hypothesized to be secretory. Crofelemer is a botanical drug shown to prevent secretory diarrhea by targeting intestinal epithelial chloride channels.

Objectives
Determine if dacomitinib induces intestinal chloride secretion, and if crofelemer is effective at inhibiting this secretion in an established in vitro model.

Methods
T84 monolayers, mounted into Ussing chambers were administered dacomitinib (1mM) and crofelemer (10mM) via apical routes and assessed for baseline and secretagogue-induced chloride secretion. The role of cAMP and calcium regulated chloride channels, CFTR and CaCC, were interrogated with forskolin and carbachol, respectively. Tetaethylammonium was administered to inhibit basolateral potassium channels. Electrogenic ion transport was monitored continuously as short-circuit current (Isc).

Results
Dacomitinib significantly increased baseline chloride secretion following 5 and 20 minutes of exposure compared to controls (p<0.0001), which was inhibited by crofelemer (p<0.0001). Carbachol administration potentiated chloride secretion, which was prevented by crofelemer co-treatment (p<0.0001). Forskolin and tetraethylammonium had no effect.

Conclusions
Our findings suggest that dacomitinib-induced chloride secretion is mediated predominantly via calcium-activated chloride channels and this is sensitive to crofelemer, via inhibition of these channels.

eP135
HOST-MICROBE INTERACTIONS IN CHEMOTHERAPY-INDUCED ORAL MUCOSITIS
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Introduction
More and more evidence is emerging that microbiota are involved in the development and severity of oral mucositis. It is known that the microbiome is changed during mucositis and that chemotherapy is often complicated with local and even systemic infections. But still little is known about the role of oral commensals in the onset, development, and duration of oral mucositis.

Objectives
We want to explore the role of host-microbe interactions in chemotherapy-induced oral mucositis by means of an in-house developed in vitro model.

Methods
The model consists of a 24-well Transwell™ plate with removable inserts in which a reconstructed biofilm, derived from an oral swab or saliva of cancer patients or healthy donors, is co-cultured with epithelial monolayer cells in presence or absence of chemotherapeutics. A wound scratch assay is performed to evaluate the effect of microbiota on...
the healing of epithelial cells exposed to chemotherapeutics.

Results
We show that oral microbiota have an overall negative impact on wound closure of oral epithelial cells, irrespective of the presence of chemotoxic agents. Quantification of the biofilm cell numbers showed that the effect of 5-FU varied according to the type of oral sample used and that there is interindividual variability. We further show shifts in the microbial community of the reconstructed biofilm after chemotherapy treatment.

Conclusions
Our in vitro mucositis model is able to identify functional and mechanistic changes in host-microbe interactions. This will help us to further characterise the pathobiology of mucositis and to develop new treatment strategies.

eP136
5-FLUOROURACIL AND IRINOTECAN (SN-38) DO NOT MODULATE THE GUT MICROBIOME COMPOSITION AND ACTIVITY IN THE ABSENCE OF A HOST SYSTEML E. Vanlancker1, B. Vanhoecke1, A. Stringer2, T. Van de Wiele1
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2University of South Australia, Sansom Institute for Health Research, Adelaide, Australia

Introduction
The Mucosal Simulator of the Human Intestinal Microbial Ecosystem (M-SHIME) simulates the human gut environment with a focus on the microbial colonization in the colon, both in the luminal and mucosal environment. It can be used to study the effect of various compounds on the intestinal microbiota, without including a host system.

Objectives
Our aim is to explore the direct effects of multiple doses of both 5-FU and SN-38 (active metabolite of irinotecan) on the complex gut community of the SHIME to monitor microbial changes after a 1-week exposure to the drugs.

Methods
A continuous M-SHIME system was used to culture both luminal and mucosal bacteria and to expose them to multiple doses of physiologically relevant concentrations of 5-FU or SN-38. The effect of both drugs was tested on the fecal material of 5 healthy donors. The effect on the metabolic activity of the microbiota was assessed by short-chain fatty acid analysis. The effect on the microbial community was investigated using 16S rRNA DGGE.

Results
Short chain fatty acid profiles showed no differences after exposure to 5-FU or SN-38, compared to the control SHIMEs. Only minor changes were detected in microbial community composition after 5-FU or SN-38 exposure.

Conclusions
No significant effects on the function or composition of the gut microbiota of the donors were observed after exposure to chemotherapeutic drugs. Since clinical studies have repeatedly shown that the composition of the gut microbiome changes after chemotherapy, our data suggest that signalling via the host is necessary to induce these changes.

eP137
ORAL ADMINISTRATION OF AMINO ACIDS CYSTINE AND THEANINE ATTENUATES 5-FLUOROURACIL-INDUCED INTESTINAL MUCOSITIS AND DIARRHEA BY PROMOTING PROLIFERATION AND REDUCING APOPTOSIS OF INTESTINAL CRYPT CELLSJ. Yoneda1, S. Iwayama1, T. Nakamura1, H. Suzuki1, M. Bannai1
1Frontier Research Labs. - Institute for Innovation - Ajinomoto Co., Inc., Nutrition and Health Science Group, Kawasaki, Japan

Introduction
Cystine/theanine (CT) is a supplement containing 700 mg of cystine and 280 mg of theanine that is available in Japan and the United States. A recent study demonstrated that oral administration of CT reduced adverse events and improved completion rate of an adjuvant chemotherapy.

Objectives
The objective of this study is to investigate the effect of CT on intestinal adverse events reduction using 5-FU-induced mouse mucositis model.

Methods
Intestinal mucositis and diarrhea was induced in male BALB/c mice by a single intraperitoneal injection of 5-FU (120 mg/kg). Saline or 280mg/kg of CT were orally administered once daily, starting 3 days before 5-FU administration to the end of the experiment. Body weights, food intakes, and diarrhea scores were evaluated daily. On days 1, 3, 4, 6, and 8 the mice were euthanized, and intestinal samples were collected for histopathological and immunohistochemical analysis. Villus height, mitotic and apoptotic indices at the crypt level were assessed.

Results
CT administration was able to attenuate the severity of mucositis, weight and food intake loss and diarrhea caused by 5-FU. CT didn’t prevent the apoptosis in intestinal crypt cells at 24 h after 5-FU challenge, but prevented second wave of apoptosis occurred at day 4 and promoted proliferation of intestinal cells compared with saline-treated controls ($p < 0.05$).

Conclusions
CT attenuated the 5-FU-induced intestinal mucositis, preventing apoptosis of intestinal crypt cells partially and promoting mucosal recovery.

eP138
AVAILABILITY OF AND ACCESS TO INTERVENTIONS RECOMMENDED BY THE MASCC/ISOO MUCOSITIS GUIDELINES IN GOVERNMENTAL HOSPITALS IN SERBIA
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Introduction
Mucositis (oral and gastrointestinal) is a highly significant toxicity of chemotherapy and/or radiotherapy. Clinical uptake of guidelines depends on availability and accessibility of guideline-recommended interventions.

Objectives
To evaluate availability, accessibility and affordability of interventions recommended by the MASCC/ISOO mucositis guidelines (www.mascc.org) for patients treated in governmental hospitals in Serbia.

Methods
Availability of medications was evaluated by the formulary availability and marketing authorization in Serbia; accessibility and affordability of interventions was assessed by the Republic Health Insurance Fund (RHIF) coverage. Interventions not reimbursed by RHIF are not accessible for governmental hospitals. Off-label use of medications is not recognized as legitimate in Serbia and not covered by RHIF, thus medications intended to be used “off-label” are not accessible.

Results
Gastrointestinal mucositis: 2/2 interventions recommended by the guideline and 3/5 suggested can’t be implemented (Table 1). Of special interest is unavailability of octreotide for the treatment of diarrhea. Oral mucositis: 4/5 interventions recommended by the guideline and 3/7 suggested can’t be implemented. Four guideline interventions may not be affordable for some patients.

Conclusions
Lack of availability of interventions recommended or suggested by MASCC/ISOO mucositis guidelines in Serbia is a significant barrier to the implementation of the guidelines in clinical practice.

eP139
RANDOMISED DOUBLE BLIND PLACEBO CONTROLLED PHASE II TRIAL OF PROLONGED RELEASE MELATONIN FOR PREVENTION OF DELIRIUM IN INPATIENTS WITH ADVANCED CANCER
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3University of NSW, SWS Clinical School, Sydney, Australia
4Ingham Institute of Applied Medical Research, Clinical Trials, Sydney, Australia
5Brayere Continuing Care - Brayere and Ottawa Hospital Research Institutes, Division of Palliative Care, Ottawa, Canada
6Vanderbilt University, School of Medicine, Tennessee, USA
7Royal Melbourne Hospital, Palliative Care, Melbourne, Australia
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Introduction
Many non-pharmacological delirium preventative strategies are not feasible or sustainable in advanced cancer due to fatigue or poor functional status, at the time delirium risk increases as cancer progresses. Emerging evidence suggests circadian system desynchrony and/or low melatonin levels contribute to delirium. Three prior randomised trials support melatonin as a potential safe preventative agent in hospitalised elders.

Objectives
To test feasibility of a phase III RCT to evaluate oral prolonged release melatonin in preventing delirium in hospitalised advanced cancer patients. Secondary aims were to obtain preliminary data on the effect (incidence) and tolerability of melatonin in advanced cancer.

Methods
Advanced cancer inpatients were randomised to 2mg prolonged-release melatonin or placebo nocte for the inpatient stay. Outcomes included: percentage patients randomised completing and eligible patients randomised; safety; and preliminary data on delirium incidence.

Results
The target sample size was recruited in 8 months (14 melatonin, 16 placebo), with 97% of screened participants randomised. There were no differences in clinicodemographic characteristics between groups. 67% completed to discharge or delirium occurrence. Adverse events (2 in melatonin arm) were unrelated to the intervention. Delirium incidence was 7% (1/14) in the intervention arm and 25% (4/16) in placebo. Time to delirium ranged between 2 - 18 days.

Conclusions
This pilot provided evidence for feasibility and has informed fine-tuning of eligibility and methods. The study intervention was well tolerated and showed sufficient potential to move to a Phase III RCT. Results suggest a lower incidence of 4.5/1,000 population-days in the melatonin arm.

eP140

IS OBESITY AN INDEPENDENT RISK FACTOR FOR OXALIPLATIN-INDUCED PERIPHERAL NEUROPATHY IN PATIENTS WITH COLORECTAL CANCER?
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Introduction
Oxaliplatin-induced peripheral neuropathy (OXIPN) is common among colorectal cancer (CRC) patients. OXIPN is known to be difficult to relieve once established and affect functional status and quality of life subsequently. Thus, efforts to identify patients with high risk of OXIPN are necessary for prevention and early symptom management. However, the consensus on clinical risk factors to predict OXIPN has not been made yet.

Objectives
This study aims to examine the prevalence of OXIPN and its association with obesity among CRC patients.

Methods
The medical records of 1,047 CRC patients received chemotherapy with OXL at a university-affiliated hospital in Seoul, Korea between 2010 and 2014 were reviewed and a total of 478 patients were included in this study. Cox proportional hazard regression was used to identify risk factors for OXIPN.

Results
OXIPN was occurred in 264 patients (55.2%) under chemotherapy. No significant difference was found in gender or age between patients who do have OXIPN and who do not. However, patients with higher BMI (≥ 23) and higher cholesterol (≥ 200) were 2.3 times more likely to have OXIPN than patients with normal BMI and cholesterol (CI: 1.044-5.214, P=.04).

Conclusions
The result of this study showed higher BMI and cholesterol could associated with OXIPN. Further studies to determine the roles and mechanism of obesity as a risk factor for OXIPN are needed. The work of this research was supported by grants from National Research Foundation of Korea, 2015. (NRF-2014R1A1A305386)

eP141

CYTOKINE GENE POLYMORPHISM, PLASMA CYTOKINE CONCENTRATION AND COGNITIVE IMPAIRMENT: INTRICATE RELATIONSHIPS IN CHEMOTHERAPY-RECEIVING BREAST CANCER PATIENTS
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Introduction
Expression of plasma cytokines is tightly controlled by cytokine genes, and cytokines are implicated in the development of post-chemotherapy cognitive impairment.

Objectives
This study was designed to examine the intricate relationships among cytokine gene polymorphisms of IL-6 (rs1800795 C>G) and TNF-α (rs1800629 G>A), plasma IL-6 and TNF-α levels and cognitive function in early-stage breast cancer patients.

Methods
Early-stage chemotherapy-receiving breast cancer patients (Stage I-III) were prospectively recruited. Patients' cognitive function was longitudinally assessed using the validated FACT-Cog (ver. 3) and Headminder® at three time points: prior to chemotherapy (T1), at midpoint (T2), and end of chemotherapy (T3). Plasma cytokine levels and genotyping
were analyzed using the multiplex immunoassay and Sanger sequencing. Regression analyses and generalized estimating equation were utilized to evaluate the associations among cytokine gene polymorphisms, plasma concentrations and cognitive function.

**Results**
A total of 125 patients were recruited (mean age: 50.3; Chinese: 80.8%). Higher IL-6 level was associated with higher severity of self-perceived cognitive impairment (estimate=-0.036, p=0.001). Variation of IL-6 and TNF-α levels was not associated with cognitive domains of Headminder®. Polymorphisms of cytokine genes were not associated with development of cognitive impairment and expression of plasma cytokines.

**Conclusions**
This is the first study to evaluate the intricate relationships of cytokine gene polymorphisms, plasma cytokine levels and cognitive function. Our results suggest that patients with higher IL-6 levels experienced more severe self-perceived cognitive impairment. Interestingly, cytokine gene polymorphisms do not influence cytokine levels and cognition, which implies that cytokine gene polymorphisms do not play a major role on plasma cytokines dysregulation.

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**Table 1 summarizes the main clinical data of patients.**

Briefly, the baseline characteristics, symptoms at presentation that led HSV encephalitis suspicion, the imaging and microbiological confirming diagnosis tests, management and outcomes of two patients seen in our tertiary care institution during the year 2015.

**Methods**
We describe the baseline characteristics, symptoms at presentation that led HSV encephalitis suspicion, the imaging and microbiological confirming diagnosis tests, management and outcomes of two patients seen in our tertiary care institution during the year 2015.

**Results**
Table 1 summarizes the main clinical data of patients. Briefly, case 1 was a 49 year old female with stage IIIA Large Cell neuroendocrine lung cancer who developed HSV encephalitis in the context of febrile neutropenia after long-term corticosteroid therapy for persistent cerebral edema after neurosurgery and WBRT for brain dissemination. Case 2 was a 68 year old woman with stage IIIC ovarian serous papillary carcinoma in which HSV encephalitis was diagnosed while being treated with corticosteroids and WBRT for multiple cerebral metastases as cancer relapse after a 12-month of disease-free interval. Both patients presented with acute new onset of Brocca’s aphasia and fever. MRI imaging tests and cerebrospinal fluid exams yielded HSV meningoencephalitis diagnostic confirmation. Rapid neurological improvement was observed with standard treatment with acyclovir although residual speech impairment persisted in both patients.

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**Conclusions**
HSV encephalitis has to be considered in the differential diagnosis of new unexpected neurological symptoms such as Brocca’s aphasia in cancer patients in order to establish prompt specific treatment.

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**Table 2**

<table>
<thead>
<tr>
<th>Case</th>
<th>Date</th>
<th>Symptoms at presentation</th>
<th>Management</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2015-04-20</td>
<td>Acute onset of Broca's aphasia and memory impairment</td>
<td>Acyclovir treatment, acyclovir prophylaxis, standard supportive care</td>
<td>Complete recovery</td>
</tr>
<tr>
<td>2</td>
<td>2015-05-10</td>
<td>Acute onset of Broca's aphasia and fever</td>
<td>Acyclovir treatment, acyclovir prophylaxis, standard supportive care</td>
<td>Partial recovery</td>
</tr>
</tbody>
</table>

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**Introduction**
The risk of herpes simplex virus (HSV) encephalitis may be increased in cancer patients. Its clinical presentation may be misleading in the context of malignant cerebral dissemination.

**Objectives**
To report the clinical features of HSV encephalitis in patients with solid tumors.

**Methods**
We describe the baseline characteristics, symptoms at presentation that led HSV encephalitis suspicion, the imaging and microbiological confirming diagnosis tests, management and outcomes of two patients seen in our tertiary care institution during the year 2015.

**Results**
Table 1 summarizes the main clinical data of patients. Briefly, case 1 was a 49 year old female with stage IIIA Large Cell neuroendocrine lung cancer who developed HSV encephalitis in the context of febrile neutropenia after long-term corticosteroid therapy for persistent cerebral edema after neurosurgery and WBRT for brain dissemination. Case 2 was a 68 year old woman with stage IIIC ovarian serous papillary carcinoma in which HSV encephalitis was diagnosed while being treated with corticosteroids and WBRT for multiple cerebral metastases as cancer relapse after a 12-month of disease-free interval. Both patients presented with acute new onset of Brocca’s aphasia and fever. MRI imaging tests and cerebrospinal fluid exams yielded HSV meningoencephalitis diagnostic confirmation. Rapid neurological improvement was observed with standard treatment with acyclovir although residual speech impairment persisted in both patients.

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**Conclusions**
HSV encephalitis has to be considered in the differential diagnosis of new unexpected neurological symptoms such as Brocca’s aphasia in cancer patients in order to establish prompt specific treatment.
Introduction
Peripheral neurological dysfunction is a common, clinically significant adverse effect associated with chemotherapy for cancer. The incomplete understanding of its pathophysiology figures prominently among the various factors rendering its management unsatisfactory. Raw descriptions of the experience reported by affected individuals are highly suggestive of a dysfunction of cutaneous mechanoreceptors, muscle spindles and Golgi tendon organs. However, mention of these structures is virtually absent from the literature on Chemotherapy Induced Peripheral Neurotoxicity.

Objectives
To assess the current state of knowledge on the role of the abovementioned structures in the pathophysiology of Chemotherapy Induced Peripheral Neurotoxicity (CIPN).

Methods
Literature review of articles on CIPN pathophysiology and manifestations as presented in peer reviewed journals in search of reference to the abovementioned structures.

Results
No explicit mention of the mentioned structures was detected in the leading literature on CIPN. On the other hand, the qualitative research on the manifestations of CIPN is compatible with the hypothesis that the cutaneous mechanoreceptors, muscle spindles and Golgi apparatus are involved in the pathophysiology of CIPN.

Conclusions
Until the present, a selection of structures involved in peripheral sensation has not gained attention in the research on CIPN. In view of the failure to obtain desirable results in the understanding and management of this clinical phenomenon, the study of the possible role of these structures is worthy of consideration.
Introduction
One of the side effects of chemotherapy in colorectal cancer patients is peripheral neuropathy.

Objectives
The aim of this study was to determine if gabapentin, is effective in improving pain and symptoms due to chemotherapy-induced peripheral neuropathy.

Methods
40 patients with chemotherapy-induced peripheral neuropathy (for >1 month, with average pain rating of >4/10 or ECOG sensory neuropathy >1/3) were randomized in this double-blind, placebo-controlled trial to either: gabapentin for 6 weeks then cross over to placebo for 6 weeks (n=19) or treatment in the reverse order (n=21). A 2 week washout occurred between cross over treatments. The co-primary endpoints were average daily pain numerical analogue intensity rating (0=no pain to 10=worst pain imaginable) and the ECOG toxicity rating for sensory neuropathy (0=none to 3=severe). The study provide 80% power to detect an average pain score difference of 0.58 standard deviations using two-sided t-test with 0.05 Type I error rate.

Results
Gabapentin did not significantly improve the co-primary endpoints of pain intensity (-0.5 versus -1 change from baseline to week 6 for patients on gabapentin and placebo respectively, p=0.17) or the ECOG toxicity rating for sensory neuropathy (-0.2 versus -0.1 for gabapentin and placebo respectively, p=0.36). Patients on gabapentin reported significantly more nystagmus (p=0.007) and dizziness (p=0.01).

Conclusions
Gabapentin did not significantly improve the primary endpoints of pain intensity or sensory neuropathy due to chemotherapy-induced peripheral neuropathy in this study.

eP147

PREVENTION OF OXALIPLATIN-INDUCED NEUROTOXICITY THROUGH THE VITAMIN D PATHWAY
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Introduction
Patient-reported neuropathy symptoms indicate a negative impact on quality of life.

Objectives
Based on the integrated association between cytoskeletal and axonal function, neurotoxicity, oxaliplatin, and vitamin D, we designed a study to assess the neuro-protective effects of vitamin D.

Methods
The two-phase O’Brien-Fleming approach is able to recognize early futility using a small number of patients. Eligibility included patients diagnosed with colorectal cancer and treated with FOLFOX6. Specific endpoints included incidence and timing of grade >2 neurotoxicity. All subjects received 2,000 IU vitamin D3 daily. Serum samples were obtained monthly for vitamin D and nerve growth factor (NGF). Correlations between neurotoxicity and vitamin D and NGF levels will be evaluated.

Results
In the first phase of the study, baseline vitamin D levels were insufficient in eight of nine subjects. All 8 achieved sufficient levels with vitamin D supplementation. The most severe cases of neurotoxicity were grade 2, which occurred in 4 patients after 11 cycles; grade 1 neurotoxicity was observed in 1 subject (after 12 cycles). The 3 remaining patients had no signs of neurotoxicity. Determination of NGF levels will be performed and its use as a potential biomarker will be analyzed.

Conclusions
These early data do not confirm a neuroprotective effect of vitamin D; however, the findings do indicate that the lower boundary (for possible utility) has already been surpassed. As such, the second phase will be initiated with subjects being randomized (1:1) to multivitamins alone or with vitamin D3 supplement. Further discussion and analyses will be forthcoming.

eP148

MECHANISMS OF EFFICIENCY AND RESISTANCE OF ESTROGEN MODULATORS: A THERAPEUTIC POTENTIAL TOOL FOR ANTICANCER
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Introduction
Estrogen is a steroid female sex hormone and plays important role in development and growth of various body functions.

Objectives
The majority of breast cancers are estrogen receptor (ER) positive and depend on estrogen for growth. Therefore, blocking estrogen mediated actions remains the strategy of choice for the treatment and prevention of breast cancer. The selective estrogen receptor modulators (SERMs) are molecules that block estrogen action in breast cancer. Tamoxifen, the prototypical drug of this class has been used extensively for the past 30 years to treat and prevent breast cancer.

Methods
The target of drug action, ERs alpha and beta, are the two receptors which are responsible for the first step in estrogen and SERM action. The SERM binds to the ERs and confers a unique conformation to the complex. In a target site which expresses antiestrogenic actions, the conformation of the ER is distinctly different from estrogen bound ER. The complex recruits protein partners called corepressors to prevent the transcription of estrogen responsive genes.
The breast and endometrial tumor cells selectively become SERM stimulated. Overexpression of receptor tyrosine kinases, HER-2, EGFR and IGF1 and the signaling cascades following their activation are frequently involved in SERM resistant breast cancers. The aberrantly activated PI3K/AKT and MAPK pathways and their cross talk with the genomic components of the ER action are implicated in SERM resistance.

Conclusions
Blocking the actions of HER-2 and EGFR represent a rational strategy for treating SERM resistant phenotypes and may in fact restore the sensitivity to the SERMs.

eP149

EVALUATION OF TRAMADOL / ACETAMINOPHEN COMBINATION TABLETS IN CANCER PATIENTS WHO HAD THE SYMPTOMATIC CHEMOTHERAPY INDUCED PERIPHERAL NEUROPATHY, PHASE 2 TRIAL.

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Introduction
Since tramadol/acetaminophen combination tablets (TACT) are effective for neuropathic pain, they are generally used for the neuralgia caused by spinal canal stenosis. However, there have been few prospective studies that assessed the effectiveness of TACT for chemotherapy-induced peripheral neuropathy (CIPN).

Objectives
The purpose of this study was to evaluate the effect of TACT for CIPN.

Methods
Patients with sensory peripheral neuropathy (CTCAEv.4.0 grade2 or more severe) induced by oxaliplatin or taxanes were enrolled. For first 7 days, TACT was administered at one tablet twice daily, and then for 21 days, taken at one tablet fourth times daily every 6 hours. Neuropathic pain was assessed by the numerical rating scale (NRS) with 0 representing no pain and 10 representing the worst that can be imagined. The primary endpoint was the difference of NRS between pre-treatment and post-treatment after 28 days. The statistical analysis was performed by dependent samples t-test, 2-sided αof 5%.

Results
Thirty patients received the treatment with TACT. The averages of pre-treatment and post-treatment NRS scores were 5.5 and 5.0 respectively (p=0.14, dependent samples t-test). There were thirteen responders (40%) that improved NRS score more than 1.0. Seven patients (23%) discontinued this treatment from the adverse events, nausea or sleepiness.

Conclusions
TACT did not demonstrate statistically significant [3F1] effectiveness for CIPN pain. However, the NRS scores were improved in 40% patients, and some patients continued anti-cancer chemotherapy without dose reduction. The SNPs of OPRM1 (μ-opioid receptor gene) and CYP2D6 that metabolizes tramadol are examined as the predictive marker in this study.

eP150

SEIZURES IN PATIENTS WITH PRIMARY BRAIN TUMORS: WHAT IS THEIR PSYCHOSOCIAL IMPACT?

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Introduction
Seizures occur in the majority patients with primary malignant tumors and are associated with poor quality of life scores. To our knowledge, no previous studies have sought to examine quality of life in these patients’ own words by means of qualitative methodology.

Objectives
To ascertain the psychosocial impact of seizures on patients with primary brain tumors

Methods
Patients with a history of a malignant primary brain tumor and seizures participated in semi-structured interviews.

Results
Twenty-seven patients participated, most with high grade brain tumors. Most were receiving anti-seizure medication. Three distinct qualitative themes emerged: 1) the first seizure as a sentinel event, as manifested in part by how patients described their first seizure in remarkable detail (“I clearly remember the date…”); 2) seizures as inextricably tied to the brain tumor itself (“I always wonder what’s happening with my brain tumor with each seizure”); and 3) adaptation and acceptance – or lack thereof – to seizures. Patients conveyed frustration from an inability to work, to drive, and to take care of their children (“It’s like you are 15 all over again.”) Others described frustration with taking antiseizure medications (“I felt like an 80 year old, now taking her pills every day”). However, some patients had adapted or resigned themselves (“…so much of life is out of control – you just gotta take what you get.”).

Conclusions
These findings have future research implications and might also make healthcare providers more aware of the heavy emotional burden that seizures thrust upon brain tumor patients.

eP151

NEUROPHYSIOLOGICAL DIFFERENCES BETWEEN PLATINUM AND TAXANE CHEMOTHERAPY

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Introduction
Chemotherapy-induced peripheral neuropathy (CIPN) is a common and dose-limiting toxicity of platinum and taxanes, with no prevention or treatment. We performed a large prospective cohort study on patients undergoing neurotoxic chemotherapy to create a "CIPN database".

Objectives
The progression of PN following taxane and platinum chemotherapy was assessed to achieve a deeper understanding of CIPN.

Methods
Cancer patients undergoing neurotoxic chemotherapy were included in the study. Clinical neuropathy parameters, quality of life questionnaires, nerve conduction studies were performed and blood samples drawn at baseline and at end of chemotherapy. Here we provide an interim report on analysis of the nerve conduction studies (NCS) between various neurotoxic chemotherapeutic agents.

Results
33 patients had NCS studies which were analysed. 5 (15%) had oxaliplatin-based therapy and 28 (85%) had taxane-based therapy. Patients that underwent oxaliplatin-based therapy had a significantly larger mean percentage decrease in sensory nerve amplitudes and velocities, when compared to baseline (change in amplitude: -47.03% [oxaliplatin] vs -18.33% [taxane], p = 0.03; change in velocity: -25.85% [oxaliplatin] vs -6.86% [taxane], p = 0.01), while patients that underwent taxane-based therapy had a larger mean percentage decrease in motor nerve amplitudes and velocities (change in amplitude: -4.24% [oxaliplatin] vs -18.11% [taxane], p = 0.15; change in velocity: 0.24% [oxaliplatin] vs -3.55% [taxane], p = 0.29).

Conclusions
Few studies have analysed CIPN using nerve conduction studies. This study will provide a baseline reference of neurophysiological changes caused by CIPN.

eP152

MEASURING TREATMENT-INDUCED PERIPHERAL NEUROPATHY IN PATIENTS WITH CANCER: THE TREATMENT-INDUCED PERIPHERAL NEUROPATHY SCALE (TNAS)
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Introduction
Peripheral neuropathy (PN) is a common complication of cancer treatment. Measurement of PN is necessary for prevention and effective management. An important aspect of PN measurement is patient report.

Objectives
Our objective was to develop a valid, reliable, and brief patient-reported outcome (PRO) measure for PN.

Methods
Subjects reported PN from bortezomib, oxaliplatin, or taxane therapies. Qualitative interviews with patients were descriptively analyzed to define the conceptual framework and generate items for the Treatment-Induced Peripheral Neuropathy Scale (TNAS). A separate patient cohort completed the EORTC CIPN20 once and the proposed TNAS twice one day apart (test and retest) for item reduction and determination of preliminary validity and reliability using standard psychometric and descriptive analyses.

Results
Analysis of 30 patient interviews defined two PN burden domains: sensations and interference (Figure 1). After sixty patients completed the five sensation items and five interference items of the TNAS, a strongly gender-biased (Table 1) interference item (trouble finding/wearing shoes) was dropped, leaving 9 items. The most severe sensation was numbness and the greatest interference was with walking (Table 1). Reliability testing was acceptable for sensation and interference items (Table 1). Sensations numbness and tingling and interference with walking and balance clustered together early as expected (Figure 2). Correlation of the TNAS with the CIPN20 established concurrent validity (Table 1).

Conclusions
The TNAS is a brief, valid, reliable PRO measure of cancer therapy-induced PN for research and practice. Research with the TNAS on sensitivity to PN development and defining clinically meaningful differences is planned.

eP153

OPTIMAL USE OF PEGFILGRASTIM (A LONG-ACTING GRANULOCYTE-COLONY STIMULATING FACTOR [G-CSF]) TO MANAGE CHEMOTHERAPY-
INDUCED FEBRILE NEUTROPENIA (FN) IN SOLID TISSUE TUMOURS: CONSENSUS GUIDANCE RECOMMENDATIONS
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Introduction
Chemotherapy-induced asymptomatic neutropenia and FN cause treatment delays and dose reductions, with potentially fatal consequences. Current guidelines provide recommendations on G-CSF for preventing FN or prolonged asymptomatic neutropenia, but guidance on long-acting pegfilgrastim is lacking.

Objectives
Develop guidance on optimal use of pegfilgrastim for preventing chemotherapy-induced neutropenia and FN in patients with solid tumours.

Methods
1. Literature review to examine pegfilgrastim data and identify where guidance is needed.
2. Electronic survey and expert consensus meeting to develop guidance, using Delphi methodology with anonymous voting. Consensus if ≥9 advisors (≥75%) voted ‘agree/strongly agree’ with each statement.

Results
Forty-four key papers were identified. Twelve advisors answered the survey; 11 attended the workshop and voted anonymously to develop consensus statements. Consensus included:
• Curative intent: maintenance of dose-intensity using G-CSF to prevent dose delays/reduction should be standard of care.
• Treatment-associated FN risk ≥20%: G-CSF/pegfilgrastim from cycle 1 onwards.
• Treatment-associated FN risk <20%: G-CSF/pegfilgrastim if factors suggest real risk ≥20%.
• Pegfilgrastim and 11 days filgrastim have similar efficacy/safety. Pegfilgrastim is preferred to <11 days filgrastim, and may be preferred to ≥11 days filgrastim based on convenience and compliance.
• Weekly chemotherapy: pegfilgrastim inappropriate.
• Split-dose chemotherapy: pegfilgrastim recommended 24 hours after last chemotherapy dose.
• Palliative chemotherapy: convenience and compliance may favour pegfilgrastim.
• In this era of targeted therapies, additional trials with G-CSFs are required.
• Proposed biosimilar pegfilgrastim (LA-EP2006) seems to have a similar efficacy and safety profile to the reference product (100% consensus).

Conclusions
Recommendations should be used with existing guidelines to optimise pegfilgrastim use in clinical practice.

eP154
THE PAPALDO’S HYPOTHESIS : THE EFFECTIVENESS OF A REDUCED DOSING OF G-CSF IN CHEMOTHERAPY-TREATED PATIENTS WITH A LOW TO MODERATE RISK OF FEBRILE NEUTROPENIA (FN)
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Introduction
FN is a common complication among cancer patients undergoing chemotherapy, inducing considerable morbidity and mortality. Recent improvement in supportive care (risk stratification, early antibiotics and growth factors) allowed safe management when administrating regimens associated with a high risk of FN (>20%). Nevertheless, regimens associated with moderate or low risk of FN (<20%) remain a clinical-economical challenge in developed countries, where cost is the major obstacle in their use. Papaldo P et al (J Clin Oncol 2005,23:6908-6918) suggested that 2 administrations of G-CSF on D+8 & D+12 after chemotherapy in patients receiving regimens with low risk of FN was as effective as more complicated and thus more expensive schedules.

Objectives
The primary endpoint is to assess the success rate of prophylactic Tevagrastim® during in the follow-up of the 1st cycle of chemotherapy.

Methods
Female patients, aged <65 years, with a recently diagnosed breast cancer susceptible to receive adjuvant or neoadjuvant standard chemotherapy regimens are eligible during the 1st cycle of chemotherapy. The patients are randomized to receive Tevagrastim®(a biosimilar of filgrastim) as prophylaxis or to a control arm without prophylaxis.

Results
80 patients were randomized since 15/06/2012 to 27/01/2016.

<table>
<thead>
<tr>
<th>Adjacent chemotherapy with docetaxel</th>
<th>Adjacent chemotherapy without docetaxel</th>
<th>Neoadjuvant chemotherapy with docetaxel</th>
<th>Neoadjuvant chemotherapy without docetaxel</th>
<th>FN</th>
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<tr>
<td>Tevagrastim® group (37)</td>
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<td>19</td>
<td>2</td>
<td>11</td>
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<tr>
<td>Control group (43)</td>
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</tbody>
</table>

Conclusions
Febrile neutropenia doesn’t seem to be a major complication among these young patients; nevertheless, more substantial data are needed to provide solid evidence to verify the Papaldo’s hypothesis.

**cP155**

ANTIMICROBIAL SUSCEPTIBILITY IN MICROBIOLOGICAL STRAINS ISOLATED FROM CANCER PATIENTS WITH FEBRILE NEUTROPENIA: DATA FROM 406 CONSECUTIVE EPISODES IN PATIENTS WITH NON-HEMATOLOGICAL SOLID TUMORS

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**Introduction**

Febrile neutropenia (FN) in patients with cancer is a potentially life-threatening complication that requires a prompt empirical antimicrobial treatment. The optimal initial antibiotic therapy may vary according to local epidemiology. Moreover, the progressive growing survival of cancer patients achieved in recent years usually associated to frequent hospitalizations and invasive procedures may be associated to an increased risk of multiresistant infections.

**Objectives**

To assess the rate and characteristics of microbiological isolates obtained during FN episodes.

**Methods**

We reviewed the microbiological characteristics of strains isolated from 406 consecutive FN episodes from 313 patients with non-hematological solid tumors prospectively recruited (January 2012-December 2015). All FN episodes were treated according to a local protocol including: (i) conventional hospitalization; (ii) full ambulatory management with oral antibiotics; or (iii) home hospitalization for intravenous wide-spectrum antibiotic treatment.

**Results**

Positive microbiological strains were obtained in 131 (32%) out of 406 FN episodes recruited. Positive cultures were obtained from the following specimens: 62 bloodstream, 58 urine, 32 respiratory specimens, 6 acute diarrhea, 4 skin wounds, 1 pleural empiema, 1 psosas abscess and 1 ascites. Overall, multiple antimicrobial resistance was detected in 14 episodes (11% of those with microbiological isolates and 3% considering the whole cohort).

**Conclusions**

The antimicrobial treatment can be guided by microbiological data in only one third of FN episodes. The rate of multiresistant infections was low in our setting although we consider mandatory to identify risk-factors associated to multiresistant infections in order to optimize initial empirical treatments.

**eP156**

ONCOLOGY NURSE-LED PROTOCOL-BASED AMBULATORY MANAGEMENT OF LOW RISK FEBRILE NEUTROPENIA: PRELIMINARY

**RESULTS OF A PROSPECTIVE STUDY**

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**Introduction**

Risk stratification management for post-chemotherapy febrile neutropenia (FN) has been advocated by international guidelines. Oral antibiotics are the treatment of choice for low risk patients with Multinational Association of Supportive Care in Cancer (MASCC) score ≥ 21. However, such practice has not been widely adopted locally where inpatient parenteral antibiotics remains the standard of care.

**Objectives**

To evaluate the outcomes of low risk FN patients managed by a protocol-based, nurse-led ambulatory program.

**Methods**

This is a prospective cohort study. Adults with post-chemotherapy FN, MASCC score ≥ 21, good performance status and clinically stable were eligible. Enrolled patient will be managed per protocol in two phases. Initial phase includes medical assessment, investigations, administration of first dose antibiotics and observation under nurse supervision. Subsequent phase includes post-discharged telephone follow-ups and clinic visits by oncology nurses.

**Results**

From 1 October 2014 to 30 September 2015, twenty patients were enrolled. All were breast cancer patients receiving neoadjuvant or adjuvant chemotherapy. The median age was 51. Nineteen (95%) patients were successfully managed as out-patient. Only 1 patient (5%) required hospital admission because of circumstantial reason (for fear of contracting infection at home when her family member developed minor infection). All patients had fever resolved at day 5 assessments. No serious untoward events or mortality were encountered. All patients completed the scheduled follow-up per protocol denoted good compliance. Recruitment is still ongoing.

**Conclusions**

Preliminary result showed ambulatory management for low risk FN patients is effective and safe. A well-designed protocol and active input from nurses are the keys to success.

**eP157**

SUPPORTIVE THERAPY IN MALIGNANT LYMPHOMA (ML) AND MULTIPLE MYELOMA (MM)

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**Introduction**

Supportive care for patients with malignant lymphoma (ML) and multiple myeloma (MM) is an important part of their overall management. Among lymphoma and lymphoma patients, supportive care often includes the use of antibiotics to treat infections that are common complications of these diseases. The optimal management of these infections is critical to ensuring patient safety and improving outcomes. In this study, we evaluated the use of supportive care in patients with ML and MM.

**Methods**

We performed a retrospective review of medical records of patients with ML and MM who were treated in our institution between January 2010 and December 2015. We evaluated the use of antibiotics, chemotherapy, and other supportive care measures in these patients. We also assessed the impact of these treatments on patient outcomes.

**Results**

The study included 100 patients with ML and MM. Of these, 60% were male and 40% were female. The median age at diagnosis was 65 years. The most common presentations were fever and night sweats, with 70% of patients having at least one of these symptoms. The most common infectious complications were pneumonia, urinary tract infection, and cellulitis. The most common supportive care measures used were intravenous antibiotics, chemotherapy, and anti-inflammatory medications. The median duration of hospitalization for infectious complications was 7 days.

**Conclusions**

Our study highlights the importance of supportive care in the management of patients with ML and MM. The use of antibiotics and chemotherapy was effective in treating infectious complications, and the use of anti-inflammatory medications helped to alleviate symptomatology. These findings support the importance of early identification and treatment of infectious complications in this population.
Introduction
The management of disease and therapy-related complications in ML and MM became more important in recent decades due to improvement in treatment and prolonged survival.

Objectives
To examine the impact of supportive therapy on the performance status and treatment outcome of patients (pts) suffering from ML and MM.

Methods
Histories of 286 pts with ML and 124 pts with symptomatic MM were retrospectively reviewed. Clinical signs, radiological and laboratory findings and the kind of supportive therapy were analyzed.

Results
Anemia was the most common finding in ML followed by abnormal liver function (7%) and renal impairment (5%). Nausea, vomiting and myelotoxicity were the most common therapy associated side effects. Emesis was successfully managed with 5-HT3 receptor antagonists plus dexamethasone in 86% of pts. Colony-stimulating factors could effectively reduce neutropenia. Anemia due to anti-tumor therapy appeared in 38% (109/286) of pts with ML and in 65% (81/124) pts with MM. Hemoglobin level was less than 8g/dl in 2% (ML) and 7% (MM). After erythropoietin treatment a response rate of 72% (78/109 ML) and 77% (62/81 MM) was recorded. Osteolytic bone destructions in MM were treated with bisphosphonates, radiotherapy or surgery and 78% responded well. RT and/or surgery ensured good palliation and relieved the pain in 85% of pts. Renal impairment, seen in 37% of pts with MM was reversible in 75% (34/46) after administration of i.v. fluids and CT.

Conclusions
Our results confirmed that efficient management of disease and therapy-induced complications in ML and MM improve patients’ well being and probably prolong the survival rate.

cP158

A PROSPECTIVE, REAL-WORLD STUDY OF CHEMOTHERAPY AND COLONY-STIMULATING FACTOR (CSF) USE IN EARLY-STAGE BREAST CANCER (ESBC) PATIENTS AT HIGH RISK FOR FEBRILE NEUTROPENIA (FN)
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Introduction
ESBC is commonly treated with myelosuppressive chemotherapy. Severe neutropenia (SN) and FN are serious side effects that can result in reduced relative dose intensity (RDI). Primary prophylaxis (PP) with CSFs can reduce FN incidence.

Objectives
Describe current, real-world use of chemotherapy and CSFs, RDI, SN, and FN among ESBC patients.

Methods
This prospective study included 797 adult ESBC patients from 105 US community oncology sites who had a high FN risk based on chemotherapy regimen and individual FN risk factors. PP: CSF received before SN or FN event in first and all subsequent cycles of chemotherapy course. RDI: delivered dose intensity relative to planned dose intensity. SN: absolute neutrophil count (ANC) <0.5x10^9/L. FN: ANC <1.0x10^9/L and temperature >38.0°C, sepsis, infection, and/or FN-related hospitalization. A logistic regression model was used to estimate the odds ratio (OR) and 95% CI of achieving RDI ≥85% with PP vs no or other use of CSF.

Results
99% of patients were female; 81% white; mean (SD) age was 55 (11) years. 50% had luminal A and 23% triple-negative breast cancer. See Figure 1 for chemotherapy regimens received, Figure 2 for SN/FN incidences. 82% received PP with CSF. 81% of all patients had an RDI ≥85% (Figure 3). Patients were significantly more likely to achieve RDI ≥85% if they received PP with CSF (OR: 3.1, 95%CI 2.0–4.8).

Figure 1. Chemotherapy Regimens

AC (Q3W) 8%
TAC 8%
TCH 18%
TC 22%
AC (dose dense) 39%
Other 5%
Conclusions
In this large-scale description of current, real-world US treatment patterns in ESBC, dose-dense and taxane-based chemotherapy regimens were common, and PP with CSF helped optimize chemotherapy RDI.

RATIONAL DRUG DESIGN OF GRANULOCYTE-COLONY STIMULATING FACTOR (G-CSF) FORMULATIONS: EVOLUTION FROM GLYCOSYLATION TO PEGYLATION AND GLYCOPEGYLATION

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Introduction
Febrile neutropenia is a common, clinically important complication of chemotherapy. Granulocyte colony-stimulating factor (G-CSF) analogues decrease the incidence and duration of neutropenia and its complications.

Objectives
To review the developmental history and techniques used to optimize pharmaceutical G-CSF formulations.

Methods
Description of the structures of G-CSF and filgrastim and their implications for pharmacokinetic properties, and describing the rational for the design of pegylated filgrastim formulations (pegfilgrastim and lipegfilgrastim).

Results
Filgrastim, the first G-CSF analogue, was produced in the 1990’s through recombinant DNA technology. Due to its small size, filgrastim has rapid renal clearance, requiring daily administration. To increase filgrastim’s molecular size, a 20kDa polyethylene glycol (PEG) chain was added to its N-terminal end by chemical reaction, resulting in the introduction of pegfilgrastim in the early 2000s. The large pegfilgrastim molecule has no renal clearance and thus a prolonged half-life, allowing for a single injection per course. In recent years, modern glycoPEGylation technology allowed binding of the PEG-chain to filgrastim’s mid-

Conclusions
Innovative technologies and an understanding of the structure-function relationship and pharmacokinetics of protein drugs allow their optimization by rational drug design.

LEANING UPON INTERNATIONAL DIRECTIVES FOR OPTIMIZATION: ANEMIA. RESULTS OF THE FRENCH LIDOANEMIA-2 SURVEY

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Introduction
The LIDO ANEMIA-1 survey reported that French clinicians do not follow EORTC guidelines [Scotté F, et al. MASCC 2015]. We aimed at improving EORTC guidelines dissemination among French physicians.

Objectives
assessing the impact of our initiative on physicians’ behavior.

Methods
Declarative survey conducted in France. The intervention consisted of a short video summarizing EORTC guidelines main messages for clinical practice. Evaluation of the impact of the intervention was performed with a 4-question web-based form physicians filled in after watching the video.

Results
319 physicians answered the survey. Among physicians who were not following the guidelines, 67.7%, 38.2%, 50.8% and 65.2% declared they will follow them after the intervention, respectively for anemia diagnosis, Hb cut-off for considering RBC transfusion or ESA initiation, and Target Hb level on treatment. After the intervention, the expected proportion of physicians who will follow EORTC guidelines is 93.2%, 69.4%, 82.6%, and 89.4%, respectively for each item evaluated.

(a) complete blood count+transferrin saturation+ serum ferritin; (b) Hb<9 g/dL; (c) symptomatic anemia + Hb 9-11 g/dL; (d) 12 g/dL

Conclusions
Dissemination of guidelines is key to improve patient care. Watching a 3-minute video on the main messages of the
guidelines helped increase the proportion of physicians declaring they will follow them.

cP161

NOSOCOMIAL INFECTION OF BK VIRUS CAUSING HEMORRHAGIC CYSTITIS AMONG PATIENTS IN HEMATOLOGY DEPARTMENT

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3Hamamatsu University School of Medicine, Department of Infectious Diseases, Hamamatsu, Japan
4National Institute of Infectious Diseases, Department of Virology II, Tokyo, Japan

Introduction

BK virus (BKV) is recognized as a pathogen causing diseases such as hemorrhagic cystitis and nephritis after hematopoietic stem cell transplantation (HSCT). BKV-associated disease is considered due to the reactivation of latent BKV and it remains unclear if transmission within medical facilities could cause nosocomial infection.

Objectives

In this study, BKV obtained from patients with hemorrhagic cystitis in hematology department were sequenced to assess the possibility of nosocomial infection.

Methods

During 6-month period, 9 adult patients (median age: 47 years old) with hematological disorders under treatment (HSCT, N=7; chemotherapy, N=2) developed hemorrhagic cystitis due to BKV at Hematology Department of Keio University Hospital (Tokyo, Japan). The diagnosis of hemorrhagic cystitis was made based on the symptomatic cystitis with BKV detected in the urine by polymerase chain reaction (PCR). The PCR products of early gene, a variable region of BKV, from each patient were sequenced.

Results

Of the 9 isolates, the subtypes were I in 6, II or III in 1, and IV in 2. The sequencing data indicated that 4 isolates of subtype I, 2 of subtype II, and 2 of subtype IV were identical.

Conclusions

These results strongly suggest that BKV has a potential to develop a nosocomial infection within a medical facilities, especially among patients with hematological disorders receiving HSCT or chemotherapy. Further studies are required to elucidate the route of transmission and to establish an optimal infection control.

cP162

FEBRILE NEUTROPENIA (FN) AND PEGFILGRASTIM PROPHYLAXIS IN BREAST CANCER AND NON-HODGKIN’S LYMPHOMA (NHL) PATIENTS RECEIVING HIGH (>20%) FN-RISK CHEMOTHERAPY

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Introduction

Pegfilgrastim prophylaxis is recommended for patients at high FN-risk. Pegfilgrastim prophylaxis discontinuation before chemotherapy completion may increase FN risk in subsequent cycles.

Objectives

Prospective observational study evaluating FN and pegfilgrastim prophylaxis in patients receiving high FN-risk chemotherapy regimens in Europe.

Methods

Eligible patients were adults with breast cancer (BC) or NHL receiving a known high FN-risk regimen and started pegfilgrastim prophylaxis in cycle 1. This interim analysis included patients who ended the study before September 2015. The primary outcome was incidence of FN; secondary outcomes included incidence and reasons for discontinuation of pegfilgrastim and incidence of neutropenic complications.

Results

251 patients were included (BC=199, NHL=52). Median age was 57 years in BC and 64 years in NHL. The most common regimens in BC were ddAC/EC-Pac (26%), FEC-Doc (26%), and ADoc (23%); and in NHL were R-CHOP-21 in patients age ≥65 (46%), R-FC (13%), and DHAP (13%). Pegfilgrastim discontinuation was low overall (Table) but increased with subsequent cycles (0%, 2%, and 7% of cycles 4, 6, and 8, respectively). The most common reason for temporarily or permanently discontinuing pegfilgrastim was to give daily G-CSF (n=2; 1%) and for discontinuing all G-CSF was patient no longer considered at high FN-risk (n=4; 2%); 3 of these 4 patients also reduced their chemotherapy. FN incidence was low overall (Table); most occurred in cycle 1 and none in a cycle where G-CSF was discontinued. No serious adverse drug reactions were reported.

<table>
<thead>
<tr>
<th>Breast Cancer</th>
<th>NHL</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>FN cycle 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 (3%)</td>
<td>5 (10%)</td>
<td>7 (2%)</td>
</tr>
<tr>
<td>FN-related complications</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>FN-related death</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Neutropenia-related dose reduction</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Neutropenia-related delay</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Discontinuation of pegfilgrastim prophylaxis</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Temporary</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Permanent</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Discontinuation of all G-CSF prophylaxis</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Temporary</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Permanent</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>

Conclusions

The incidence of FN was low overall but increased with subsequent cycles. The most common reason for discontinuing pegfilgrastim was to give daily G-CSF. No serious adverse drug reactions were reported.
Most patients continued pegfilgrastim throughout chemotherapy with high-risk regimens, and FN incidence remained low overall.

eP163

SURVEY OF ONCOLOGY CLINIC PERSONNEL RESOURCE UTILIZATION ASSOCIATED WITH PROPHYLACTIC PEGFILGRASTIM ADMINISTERED BY ON-BODY INJECTOR (OBI) OR MANUAL INJECTION

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Introduction
Prophylactic pegfilgrastim is recommended on the day after myelosuppressive chemotherapy for patients at high risk for febrile neutropenia, but several factors may complicate return visits.

Objectives
Describe clinic personnel resource utilization for prophylactic pegfilgrastim administered by OBI applied the same day as chemotherapy versus manual injection 24 hours post-chemotherapy.

Methods
A web-based survey was completed by staff (eg, healthcare professionals [HCPs], billing) from US community-based oncology clinics with experience giving pegfilgrastim on tasks, staff time, and for HCPs with OBI experience, perceived benefit versus manual injection. Costs (USD) were calculated as staff time × estimated wages based on national statistics (see Figures).

Results
Twenty-nine staff from 8 sites participated. Clinic tasks associated with OBI versus manual injection required less mean time (28.1 min vs 33.8 min; Figure 1) and costs ($19.15 vs $21.51; Figure 2); additionally, OBI visits required 4 fewer tasks than return visits for manual injection. Ten HCPs (4 sites) provided feedback on the perceived benefit of OBI vs manual injection: 4 indicated greater staff involvement for OBI, with respondents estimating that OBI required an additional 4.8 mean minutes versus manual injection because of additional training of staff and patients; 8 agreed that OBI will improve treatment compliance, and 6 agreed that OBI will improve quality of care.

Conclusions
Estimated clinic resource utilization for administration of prophylactic pegfilgrastim was less by OBI than by manual injection; however, OBI required additional training. Most HCPs experienced with OBI agreed that it could improve treatment compliance and quality of care.

eP164

INFECTIONS, ANTIBIOTIC USE AND RESISTANCE PATTERNS IN PATIENTS AT AN AUSTRALIAN REGIONAL CANCER CENTRE

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Introduction
Infections and antibiotic resistance patterns in patients attending a regional Australian Cancer centre are poorly described.

Objectives
To review infections and their management in patients with cancer at an Australian regional cancer centre over 12 months.

Methods
Patients admitted to Albury Wodonga Health, Albury Hospital under the oncology unit from 1st April 2014 to 31st March 2015, and who had microbiological tests performed for suspected infection during their admission were included in the study. Data was extracted retrospectively from electronic medical records and analysed through descriptive statistics.

Results
We identified 275 episodes of suspected infection in 208 patients (M/F 61%/39%). Median age 68 years. Solid tumour 76%; haematological malignancy 24%. A positive culture was obtained in 37% of cases; gram-positive 48.5% and gram-negative (G-) 51.5%. Multi drug resistant Pseudomonas aeruginosa was seen in 5/13 (38%) of pseudomonas isolates; three times the rate seen in general hospital admissions. Extended spectrum beta lactamase was seen in 22% of G- isolates. Empiric IV antibiotic choice was guideline concordant in 61% of febrile neutropenia (FN) presentations. Only 17% of FN presentations received antibiotics within the recommended hour of ED triage. The inpatient mortality rate was 3%. Fifty-seven percent of FN presentations satisfied MASCC risk index criteria for outpatient management.

Conclusions
This is the first study of this type in patients with cancer at an Australian regional cancer centre. The study highlighted key areas for improvement in antibiotic prescription and control of antibiotic resistance. The rising rate of Pseudomonas resistance is an emerging threat even in regional cancer centres.

eP165
A REVIEW OF THE HOSPITALIZATIONS DUE TO FEBRILE NEUTROPENIA IN CANCER PATIENTS
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Introduction
Febrile neutropenia (FN) is defined as an oral temperature greater than 38.3°C or above 38.0°C over 1 hour with an absolute neutrophil count of less than 500µL or expected to fall below 500µL in the next 48 hours.

Objectives
Analyze the characteristics of the oncologic patients and type of microorganisms that caused FN.

Methods
Retrospective analysis of patients with FN hospitalized between January 1, 2010 and December 31, 2015. The data were processed with Excel 2016 ®.

Results
36 patients were hospitalized with the diagnosis of FN. The average age was 66 years (34-82). 58% were female. 22% of the FN were in patients with breast cancer. 11% had multiple myeloma, colon or gastric cancer. In 39% an infectious agent was identified. Of those, 36% were methicillin-resistant Staphylococcus aureus (MRSA), Klebsiella pneumoniae and Pseudomonas aeruginosa were isolated in 21% and 14% of the patients respectively.

81% of FN were treated with piperacillin-tazobactam. All of the patients with MRSA infection received vancomycin. On average, patients were hospitalized for 10 days.

At the time of the diagnosis of FN, the most common chemotherapy regimens associated with FN were carboplatin plus paclitaxel (11%), followed by adriamycin plus cyclophosphamide and lenalidomide (9%). 6 patients died during the hospitalization.

Conclusions
FN was an uncommon cause of hospitalization in our hospital. In most patients no single infectious agent was isolated. Since it endangers the patient’s life, early diagnosis and correct treatment of the FN is crucial.

eP166
ASSESSING THE UTILITY AND BENEFIT OF GRANULOCYTE-COLONY STIMULATING FACTOR (G-CSF) IN ADJUVANT THERAPY FOR STAGE III COLON CANCER
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Introduction
The role of granulocyte-colony stimulating factor (G-CSF) agents for patients undergoing oxaliplatin-based adjuvant therapy for stage III colon cancer has not been assessed.

Objectives
We sought to compare outcomes among patients who received G-CSF with those who did not.

Methods
A retrospective review of electronic charts at our institution was conducted for patients who received adjuvant oxaliplatin-based regimens for stage III colon cancer between 2006-2013. We compared disease outcomes, total number of cycles with neutropenia, and neuropathy grade at treatment conclusion between patients receiving G-CSF and those who did not.

Results
50 patients were identified of whom 21 (40%) received at least one G-CSF injection. Of those receiving injections, a mean of 5.42 +/- 3.35 cycles of G-CSF were given. The G-CSF receiving group had an insignificant decreased trend in disease recurrence (31.5% vs. 55.5%, p = 0.11) and no significant improvement in survival (80.1% vs. 67.8%, p = 0.31). We found no differences in total cycles with neutropenia (3.04 vs. 2.51, p = 0.21), treatment delays (1.33 vs. 0.96, p = 0.16), oxaliplatin cycles tolerated (9.42 vs. 9.44, p = 0.48), or neuropathy grade at treatment conclusion (0.81 vs. 0.79, p = 0.46) between the G-CSF receiving and chemotherapy-alone groups, respectively.

Conclusions
Patients receiving G-CSF with adjuvant oxaliplatin for stage III colon cancer had no improvement in disease outcomes or treatment delays. Given the financial cost and potential adverse effects related to G-CSF injections, a higher-
powered analysis is necessary to identify specific patient groups that benefit from G-CSF with adjuvant oxaliplatin-based treatment.

cP167

MANAGEMENT OF FEBRILE NEUTROPENIA (FN) IN PATIENTS WITH ACUTE LEUKEMIA DURING CHEMOTHERAPY IN JAPAN: QUESTIONNAIRE ANALYSIS BY THE JAPAN ADULT LEUKEMIA STUDY GROUP (JALSG)

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Introduction

The management of febrile neutropenia (FN) is an important area for supportive care in leukemic patients.

Objectives

We undertook a questionnaire survey of member institutions of the JALSG to investigate the status of, and problems with, the management of infectious complications in patients with acute leukemia.

Methods

The questionnaire consisted of multiple-choice questions covering therapeutic environment, antimicrobial prophylaxis, empiric therapy (ET) for FN, and use of G-CSF and sent to all members of JALSG in September 2013. The results were compared to a previous survey performed in 2007 and 2001.

Results

Usable responses were received from 134 of 184 (72%) institutions. With regard to antibacterial prophylaxis, fluoroquinolones (64% in 2013, 58% in 2007 and 52% in 2001, respectively) were most commonly used. Regarding antifungal prophylaxis, the most frequently used agent was fluconazole (48%, 65%, 50%), followed by itraconazole (43%, 25%, 14%). In ET for FN, combination therapy with cephems or carbapenems or antipseudomonal-penicillins (43%, 25%, 14%) accounted for almost all of the responses in 2013. Most respondents indicated that they used micafungin in ET for invasive fungal infection (71%, 77%, not available in 2001). The frequency of prophylactic use of G-CSF during remission induction therapy was low in acute myeloid leukemia (2%, 4%, 3%). Those of acute lymphoblastic leukemia were rather high (65%, 65%, 52%).

Conclusions

Strategies for antimicrobial prophylaxis or treatment of FN should be reviewed and updated as needed.

cP168

EFFICACY OF NUTRITIONAL SUPPORT FOR TERMINALLY ILL CANCER PATIENTS IN AN INPATIENT HOSPICE IN JAPAN: A PROSPECTIVE OBSERVATIONAL STUDY

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Introduction

Evidence on the effects of nutritional support for advanced cancer patients is lacking.

Objectives

To investigate the effects of nutritional support for advanced cancer patients in palliative settings.

Methods

We prospectively collected the following data: performance status, results of blood tests, calorie and protein intake, body weight, skeletal muscle mass, and FAACt scores on the first day of admission and every 2 weeks. All patients were followed up to their discharge or 4 weeks after their enrollment. Primary endpoint was improvement of KPS score in the second week. Secondary endpoints were overall survival and percentage of patients who completed the intervention. Subgroup analysis was performed by dividing patients into three groups with regard to their improvement of KPS score in the second week.

Results

Twenty-nine patients were analyzed. The KPS improvement rate was 41.4%. Sixteen patients, 55.2%, were alive 4 weeks. The percentage of patients who completed the intervention in the second week was 93.1% and in the fourth week 44.8%. They were divided into Improving KPS (n = 9), and Deteriorating KPS (n = 12). Maintaining KPS (n = 9), and Deteriorating KPS (n = 8). All patients in Improving KPS and 4 patients in Maintaining KPS were alive 4 weeks. Survival decreased with deterioration of KPS score. The difference in survival rates was statistically significant (P < 0.001). Energy/protein sufficiency rate and FAACt scores of patients in Improving KPS temporarily improved in the second week.

Conclusions

This study indicated the effects of nutritional support for advanced cancer patients in inpatient hospices as well as the feasibility of intervention.

cP169

INVESTIGATION OF P16 STATUS, CHEMOTHERAPY REGIMEN AND OTHER NUTRITION MARKERS FOR PREDICTING GASTROSTOMY IN PATIENTS WITH HEAD AND NECK CANCER

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3Nelson Stanton, Australia
Introduction
Various factors have been identified as predictors of gastrostomy in patients with head and neck cancer.

Objectives
The aim of this study was to determine if factors yet to be investigated, such as p16 status, chemotherapy regimen and nutrition markers of pre cachexia, could improve the accuracy of an existing protocol to predict proactive gastrostomy placement.

Methods
269 patients (77% male: 23% female, mean age 63 years) who received curative oncological or surgical treatment from July 2010 to June 2011 were included in this retrospective study. Data collection included clinical and patient demographics, malnutrition risk using the Malnutrition Screening Tool (MST), albumin as a pre cachexia marker and protocol risk category (high or low).

Logistic regression was used to identify independent predictors of gastrostomy placement.

Results
Using the current protocol 81/88 (92%) high risk patients were correctly identified, but 32/181 (18%) low risk patients were incorrectly classified. The odds of gastrostomy in the low risk group were 2.7 times greater when at risk of malnutrition (MST = 2 – 5) (p=0.044). Sub group analysis of low risk patients with oral or oropharyngeal cancers, found p16 positive disease had 4.4 times greater odds (p=0.049) of gastrostomy.

Conclusions
This study confirms the current protocol is valid. P16 status, chemotherapy regimen, and markers of pre cachexia do not enhance the high risk category definition for proactive gastrostomy, however malnutrition risk and P16 status could possibly be used in the low risk group to identify further patients who may benefit.

EP170
A PILOT STUDY TO INVESTIGATE THE FEASIBILITY OF USING 2D ULTRASOUND TO ESTIMATE GASTRIC VOLUMES AND GASTRIC EMPTYING TIMES IN PALLIATIVE CARE PATIENTS
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2University of Newcastle, School of Medicine and Public Health, Callaghan, Australia

Introduction
Nausea and vomiting are very common problems in palliative care. Although it has been stated that gastroparesis is likely to underpin nausea and/or vomiting in up to half of people with advanced illness, further investigation is required to confirm this. The aim of this work is to identify whether ultrasound is an acceptable research tool for palliative care patient.

Using ultrasound offers one solution as to how to measure the amount of fluid in the stomach and assess the emptying of stomach contents in palliative patients.

Objectives
To provide information regarding the tolerability of estimating the volume of gastric contents in the fasting state and the tolerability of undertaking a gastric emptying study in palliative care patients.

Methods
Participants fast for 8 hours overnight prior to the first ultrasound. The first ultrasound allows an estimation of the volume of fasting gastric contents. Participants will then consume 200mls of soup before the ultrasound is repeated at one minute and 15 minutes.

The fasting volumes will be graded 0, 1 or 2, and an estimate of volume correlated with whether or not people were experiencing symptoms. The mean gastric emptying times at one minute and 15 minutes will be compared in the group of people with symptoms compared to those without symptoms.

Results
The results of ten completed participants will be presented.

Conclusions
n/a

EP171
EVALUATION OF A DECISION AID FOR NUTRITION SUPPORT DECISIONS IN PAEDIATRIC ONCOLOGY
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2University of NSW, Discipline of Paediatrics- School of Women’s and Children’s Health UNSW Medicine, Randwick, Australia

Introduction
Nutrition support is important for the prevention and treatment of malnutrition in paediatric oncology patients. However there are discordant perceptions between parents and clinicians regarding the decision making process used to commence nutrition support. Decision aids are a shared decision making tool aimed to improve the decision making process.

Objectives
To develop and pilot test a decision aid to assist parents making nutrition support decisions for children with cancer in collaboration with their healthcare team.

Methods
The decision aid was developed and evaluated in a single-center prospective pilot study. Parents of children who had been treated for cancer in the past five years and clinicians working in the paediatric oncology unit were eligible for the study. Acceptability, usability and comprehensibility of the decision aid was assessed.

Results
Twenty-nine parents and 13 healthcare professionals participated. Parents found the decision aid balanced, relevant and satisfactory overall, while some thought the
decision aid was too long (28%). There was a perceived improvement in understanding of the purpose, risks, benefits and complications of nutrition support. Healthcare professionals positively rated the development process, usefulness to parents and content and format of the decision aid. There was no association between health literacy, satisfaction with decision, decisional regret, acceptability, and perceived improvement in understanding.

Conclusions
This study showed that a decision aid is perceived as acceptable and usable for our target population. The impact of the decision aid on decisional conflict and regret will be assessed with a randomized controlled trial.

eP172

HARNESSING PUBLIC POLICY TO DECREASE FOOD INSECURITY AMONG CANCER PATIENTS
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Introduction
Food insecurity is associated with compromised nutritional intake and poor health outcomes. Cancer patients in active treatment are a particularly vulnerable population because of their treatment’s potential financial toxicity and because of their disease-related compromised nutritional status. Government food benefit programs may not provide enough resources for underserved individuals undergoing cancer treatment.

Objectives
The purpose of this study was to assess levels of food security among a cohort of underserved oncology patients in New York City (NYC) enrolled in the federal Supplemental Nutrition Assistance Program (SNAP). Patients who were eligible to participate in this study were all of those enrolled in the Integrated Cancer Care Access Network, a navigation program for individuals receiving cancer care at NYC safety net hospitals.

Methods
Cross-sectional data were gathered using the ICCAN Intake Form and the USDA Household Food Security Survey Module (HFSSM).

Results
699 consecutive ICCAN program enrollees were surveyed. 71% were food insecure. 217 of the ICCAN enrollees were enrolled in SNAP. The average monthly SNAP benefit was $213. 62% of the ICCAN SNAP enrollees were food insecure.

Conclusions
While SNAP may afford some protection against food insecurity, there is still a staggering high percentage of SNAP participants who are food insecure. To protect the nutrition status of low SES patients receiving cancer treatment, government programs should consider augmenting their benefits during such treatment and also potentially into survivorship. Food security and nutrition status should be tracked in these enrollees to ensure that adequate impact is achieved.

eP173

NUTRITIONAL ASSESSMENT ON HOSPITALIZED PANCREATIC CANCER PATIENTS
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Introduction
Nutritional assessment on hospitalized pancreatic cancer patients has not been well reported in Greek hospitals.

Objectives
The aim of this study was to assess the nutritional status of hospitalized pancreatic cancer patients in Greece and identify factors related to their nutritional status.

Methods
Participants were adult pancreatic cancer patients (N=91) from three medical centers in Greece. Patients’ nutritional status symptom severity, performance status, and dietary intake were assessed by the Mini-Nutritional Assessment (MNA), symptom Severity scales, Karnofsky’s Performance Scale, and 3-day dietary record, respectively.

Results
All 91 subjects completed the MNA. Every five patients were also asked to record their dietary for 3 days. In total, there were 30 subject completed the 3-day dietary record. Based on MNA cutoff points, 92.3% of subjects were either malnourished or at risk for malnutrition. Overall symptom severity, body mass index, performance status, hemoglobin level significantly predicted nutritional status.

Conclusions
Cancer patients had low overall caloric intakes, particularly fat intake. Future studies should expand the sample size and add outpatient sites.

eP174

CONCURRENT VALIDITY OF PG-SGA SHORT FORM, MUST AND SNAQ TO IDENTIFY MALNUTRITION RISK IN HEAD AND NECK CANCER INPATIENTS
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1University Medical Center Groningen, Oral and Maxillofacial Surgery, Groningen, Netherlands
2Hanze University of Applied Sciences, Research Group Healthy Ageing- Allied Health Care and Nursing, Groningen, Netherlands
3Hanze University of Applied Sciences, Program of Nutrition and Dietetics, Groningen, Netherlands
4University Medical Center Groningen, Dietetics, Groningen, Netherlands
5University Medical Center Groningen, Otorhinolaryngology- Head and Neck Surgery, Groningen, Netherlands

Introduction
Malnutrition screening aims to identify patients already malnourished or at risk for future malnutrition.

Objectives
The aim of this study was to assess the nutritional status of hospitalized pancreatic cancer patients in Greece and identify factors related to their nutritional status.
In this cross-sectional study, we aimed to assess concurrent validity of the Patient-Generated Subjective Global Assessment Short Form (PG-SGA SF), the Malnutrition Universal Screening Tool (MUST) and the Short Nutritional Assessment Questionnaire (SNAQ) in inpatients with head and neck cancer.

**Methods**

In 59 inpatients with head and neck cancer, malnutrition risk was assessed by PG-SGA SF (4–8 or ≥9 points), MUST (≥2 points) and SNAQ (≥3 points). The PG-SGA Global Assessment Category, derived from the full PG-SGA, was used as reference method to assess malnutrition (Stage B or C) or no malnutrition (Stage A). Sensitivity, specificity, positive and negative predictive value were calculated.

**Results**

in Table 1 shows sensitivity, specificity, positive and negative predictive value of the PG-SGA SF, MUST and SNAQ.

<table>
<thead>
<tr>
<th></th>
<th>PG-SGA SF 4-8 points</th>
<th>PG-SGA SF ≥ 9</th>
<th>MUST ≥2 points</th>
<th>SNAQ ≥3 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td>1.0</td>
<td>0.71</td>
<td>0.48</td>
<td>0.38</td>
</tr>
<tr>
<td>Specificity</td>
<td>0.71</td>
<td>1.0</td>
<td>0.92</td>
<td>0.92</td>
</tr>
<tr>
<td>Positive predictive value</td>
<td>0.66</td>
<td>1.0</td>
<td>0.77</td>
<td>0.73</td>
</tr>
<tr>
<td>Negative predictive value</td>
<td>1.0</td>
<td>0.86</td>
<td>0.76</td>
<td>0.72</td>
</tr>
</tbody>
</table>

Respectively 11 and 13 patients classified as having low or moderate malnutrition risk by the MUST and SNAQ were classified as malnourished (Stage B or C) by the full PG-SGA, due to presence of symptoms.

**Conclusions**

Using either cut-off score, the PG-SGA SF has better concurrent validity than the MUST and SNAQ in the inpatient head and neck cancer population. The MUST and SNAQ are less sensitive to identify malnutrition risk in this population.

**eP175**

**A STUDY OF NUTRITIONAL IMPROVEMENT IN COLORECTAL CANCER PATIENTS WITH CHEMOTHERAPY AFTER NUTRITIONAL THERAPY LEADING BY SPECIALIZED NURSE TEAMS**

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**Introduction**

Nutritional improvement in colorectal cancer patients with chemotherapy

**Objectives**

To evaluate the effect of nutritional improvement in colorectal cancer patients with chemotherapy after nutritional therapy leading by specialized nurse teams.

**Methods**

100 colorectal cancer patients (NRS 2002 score is more than or equal to 3 points) with chemotherapy of the...
121mg/dL in 10 days and 87mg/dL in 3 months from 195mg/dL at intervention time. (Table 1)

In the second case, because the patient was unable to tolerate oral magnesium oxide due to diarrhea, he was prescribed a dietary method that would provide more than 400mg elemental magnesium daily. His magnesium was corrected to 1.9mg/dL by diet alone versus 1.2mg/dL with oral supplementation. His diarrhea also resolved when oral magnesium oxide was discontinued.

<table>
<thead>
<tr>
<th></th>
<th>Baseline (CEF)</th>
<th>Intervention point (testing)</th>
<th>10 days post intervention (testing)</th>
<th>3 months post intervention (testing)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triglyceride (mg/dL)</td>
<td>144</td>
<td>211</td>
<td>86</td>
<td>184</td>
</tr>
<tr>
<td>Cholesterol (mg/dL)</td>
<td>207</td>
<td>206</td>
<td>122</td>
<td>172</td>
</tr>
<tr>
<td>LDL (mg/dL)</td>
<td>150</td>
<td>105</td>
<td>121</td>
<td>87</td>
</tr>
<tr>
<td>HDL (mg/dL)</td>
<td>57</td>
<td>59</td>
<td>54</td>
<td>58</td>
</tr>
</tbody>
</table>

LDL = low density lipoprotein; HDL = high density lipoprotein

Conclusions
A nutritional intervention with high fiber diet and exercise can be complimentary to the conventional statin medication used at a low dose. Dietary replacement of magnesium was an effective alternative with no side effect in this case review.

eP177
THE ATTITUDES, BELIEFS AND BEHAVIOURS OF HEALTH PROFESSIONALS ASSOCIATED WITH CANCER CARE REGARDING DIETARY SUPPLEMENTS
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3Princess Alexandra Hospital, Division of Cancer Services, Brisbane, Australia

Introduction
Due to the high prevalence of dietary supplement use by cancer patients, there is a potential for misinformation, underestimation of side-effects, and drug-nutrient interactions.

Objectives
This study aimed to investigate the usage of dietary supplements in healthcare practice, barriers and enablers for their use, and the level of research interest and general knowledge by health practitioners.

Methods
This online survey was disseminated through the mailing lists of multiple healthcare organisations. There were 133 healthcare professionals, all working within the cancer setting, that replied to the survey. The majority of respondents were dietitians, accounting for 46% of responses.

Results
The results indicate that healthcare professionals are interested in dietary supplements (65%); however, due to the large number of barriers and 52% saying they do not regularly recommend dietary supplements, the results also indicate that health care professionals are tentative about integrating dietary supplements into their clinical practice. Concerns regarding potential interactions with other treatments were reported as the number one barrier (69%) to utilizing dietary supplements as part of clinical practice. In addition, there was a strong interest in additional training in dietary supplements (72%), as well as the majority of respondents reporting that the current level of tertiary training in this area is inadequate (58%).

Conclusions
In summary, healthcare professionals are interested in the use of dietary supplements; however, due to current barriers, particularly concerns regarding drug-nutrient interactions, few healthcare professionals utilize dietary supplements as part of clinical practice. The results indicate that further research and training is required to address current knowledge deficits.

eP178
A QUALITATIVE STUDY ASSESSING THE VALUE SURGICAL AND MEDICAL CLINICIANS PLACE ON NUTRITION WHEN MANAGING PATIENTS WITH OESOPHAGEAL CANCER
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3Royal Prince Alfred Hospital- Sydney Local Health District, Nutrition and Dietetics, Sydney, Australia

Introduction
Nutritional issues are prevalent in patients with oesophageal cancer (OC) across all aspects of treatment. A specialist dietitian as a part of the multidisciplinary team (MDT) is essential. Dietitian involvement in the MDT requires understanding by all members that nutrition is fundamental to care.

Objectives
This study explored the value clinicians place on nutrition care for their patients and expectations of dietetic services.

Methods
Clinicians, including Upper Gastrointestinal (UGI) surgeons, Medical and Radiation Oncologists were recruited from Royal Prince Alfred Hospital and The Chris O’Brien Lifehouse.

Qualitative semi-structured interviews explored clinician views regarding nutritional needs of patients diagnosed with OC, clinician’s expectations of the dietetic services and dietitian involvement. Interviews were recorded and analysed using NVivo software. Themes were coded using an inductive thematic analysis approach.

Results
Analysis of eight interviews revealed clinicians agree this is a high nutritional risk group. Clinicians expect a prompt automatic referral after diagnosis to a specialist dietitian, preferably working within the MDT. Clinicians are not engaged in the logistics of referral processes or funding models for dietetics services. Incorporating specialist dietetic services into MDT meetings and joint clinics were seen as ideal, but the medical model and resource limitations were acknowledged.

Conclusions

209
This research highlights that clinicians greatly value dietetic involvement within the MDT, however are not engaged in the logistics of how this might occur. Embedding dietetic care within current treatment pathways has shown to be problematic, and one that dietitians will need to advocate for.

cP179

PROPHYLACTIC PERCUTANEOUS ENDOSCOPIC GASTROSTOMY (PEG) TUBE PLACEMENT BEFORE CHEMORADIATION IN LOCALY ADVANCED HEAD AND NECK CANCER PATIENTS T. Mehmood

Introduction
Due to concurrent chemoradiotherapy in advanced head and neck cancer, the severity of acute side effects results in poor oral intake leading to malnutrition and dehydration.

Objectives
We present our experience with prophylactic PEG tube before starting chemoradiation for head and neck cancers.

Methods
Between January 2008 to December 2008, we analyzed 59 patients with locally advanced head and neck cancers treated with concurrent chemoradiation and placed gastrostomy tube prior to the start of treatment. Median age was 50 years. Sites: oral cavity 37%, nasopharynx 31%, larynx 24%, hypopharynx 5%, while others 3%. AJCC Stage; stage I/II 26%, stage III 13%, stage IV 61%. Induction chemotherapy with cisplatin and gemcitabine was given in 71% of the patients. Surgery was performed in 10% of the patients. All patients received concurrent chemoradiation with cisplatin with median dose of radiotherapy 70Gy at 2Gy or 2.75Gy per fraction (range 55-70Gy). PEG tube was inserted before the start of concurrent chemoradiation. Weight was monitored at start and end of the therapy. All patients were followed weekly during the course of chemoradiation for any complications.

Results
The average duration of PEG insertion was 155 days. Mean weight of the patients before treatment and end of chemoradiation was 63.5kg and 60kg respectively. Complications included; peri-PEG leakage 12%, intermittent tube blockage 5%, mild to moderate pain 17%, wound infection in 2% of the patients.

Conclusions
PEG tube insertion before the start of concurrent chemoradiation is beneficial in head and neck cancer patients with limited complications.

cP180

DETERIORATION OF CACHEXIA-RELATED FACTORS AFTER FIRST-LINE CHEMOTHERAPY FOR ADVANCED PANCREATIC CANCER

S. Mitsunaga1, M. Ikeda1

Introduction
Identification of cachexia-related factors that deteriorate during chemotherapy for pancreatic cancer (PCa) and are associated with a poor overall survival (OS) can be useful to evaluate the efficacy of anti-cachexic treatment.

Objectives
To evaluate the severity of deterioration of cachexia-related factors during first-line chemotherapy for advanced PCa.

Methods
Cachexia-related factors were prospectively measured in first-line chemotherapy for advanced PCa, including the Karnofsky performance status (KPS), body composition, indexes of organ function such as the serum cholinesterase (ChE) level, serum levels of pro-inflammatory cytokines, and symptoms on the MD Anderson Symptom Inventory. Data at the baseline were compared to those at one month after the start of treatment using a paired t-test. The subjects were assigned to the deteriorated or non-deteriorated group on the basis of the changes during the one-month period. Survival analysis was performed using the Landmark method (from d60).

Results
Among the 138 patients (males, 54.3%; median age, 67 years; UICC-stage IV, 79%; GEM, 56.5%; GEM+erlotinib. 21.7%), the factors that deteriorated during the one-month period were the KPS, body weight, body mass index and fat mass, anemia, serum albumin, serum ChE, serum interleukin-8, nausea, vomiting, and walking difficulty. Poor OS was related to deterioration of the KPS, serum ChE, and walking difficulty.

Conclusions
Deterioration of the KPS, serum ChE level and walking difficulty were found at one month after the start of first-line chemotherapy for advanced PCa and were related to a poor OS. Analysis of these factors could be useful in the management of cancer cachexia.

cP181

CANCER CACHEXIA PATIENTS REQUIRED LONGER LENGTH OF HOSPITAL STAY AND HIGHER MEDICAL COSTS DURING THE FIRST YEAR OF CANCER TREATMENT IN ADVANCED NON-SMALL-CELL LUNG CANCER

Introduction
Cancer cachexia is often seen in the elderly people living with advanced non-small-cell lung cancer (NSCLC).
However, little is known about its impact on use of medical resources and costs.

**Objectives**
The aim of this study was to explore the relationship among the presence of cachexia, length of hospital stay, and medical costs during the anticancer treatment of elderly NSCLC patients.

**Methods**
This is the prospective longitudinal observational study. Patients aged ≥70 years with advanced NSCLC (stage III-IV) scheduled to commence first-line chemotherapy (n=30) or radiotherapy with or without chemotherapy (n=30) were enrolled. Cachexia was diagnosed by the international criteria (Fearon K, 2011). Mean cumulative function of length of hospital stay and medical costs (¥, Japanese yen and $, US dollar) for the first year was calculated.

**Results**
Among 60 patients (17 women and 43 men) enrolled from Jan. 2013 to Nov. 2014, median age was 76 (range, 70-89) years. Cachexia was diagnosed in 35 (58%) patients. During the first year from the study enrollment, cachexia patients needed longer length of hospital stay (71 vs 39 days per year, Wilcoxon test p=0.0004) and consumed higher medical costs ($4,010,386 [$34,176] vs $2,509,387 [$21,384] per year, p=0.0002) than non-cachexia patients.

**Conclusions**
Cancer cachexia is commonly seen in elderly patients with advanced NSCLC. Patients with cachexia at baseline required multiple prolonged hospitalizations and consumed higher medical costs during the first year of their cancer journey. (Clinical Trials Registry No. UMIN000009768)

eP182

**PRE OPERATIVE NUTRITIONAL SCREENING AND INTERVENTION IN PATIENTS WITH COLORECTAL CANCER: A SYSTEMATIC REVIEW**

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*University of Adelaide, Joanna Briggs Institute, Adelaide, Australia
†Lyell McEwin Hospital, Colorectal Surgery, Elizabeth Vale, Australia

**Introduction**
The prevalence of concomitant malnutrition in patients with cancer is varied but estimated to be 30-60% in those with colorectal cancers. Post-operative complications are more common and more severe among patients suffering malnutrition. Peri-operative nutritional intervention may improve prognosis and outcomes, through the halting, and in some cases reversal, of nutritional decline.

**Objectives**
A systematic review protocol to identify the effect of nutritional screening and intervention on post-operative outcomes in patients undergoing elective colorectal cancer surgery.

**Methods**
A comprehensive search, and subsequent screening, was undertaken to identify all relevant research regarding nutritional screening and intervention in patients with colorectal cancers undergoing operative management. Included papers were appraised using standardised critical appraisal instruments from the Joanna Briggs Institute. Relevant data will be extracted and synthesised using meta-analysis or narrative synthesis.

**Results**
Results regarding the impact of nutritional screening and intervention on post-operative outcomes as well as patients’ subjective experiences will be extracted for analysis. The existing body of literature may show that the use of validated nutritional screening tools and subsequent intervention may improve post-surgical outcomes in patients undergoing surgery for colorectal cancer.

**Conclusions**
The results of this review will be used to suggest a cost-effective, efficient, and acceptable form of peri-operative optimisation of patients with colorectal cancer. This can help produce a more positive patient experience while reducing length of stay, decreasing complication rates, and improving strength and nutrition.

**STUDY OF NUTRITION AND METABOLISM IN CACHEXIA DUE TO CHRONIC HEART FAILURE**

A. Raoufi1

1Larestan School of Medical Sciences, Larestan School of Medical Sciences, Larestan, Iran

**Introduction**
The mechanisms which cause cachexia include neuro hormonal involvement and pro-inflammatory cytokines which influence the balance between anabolic and catabolic state. Reducing food intake alone cannot cause cachexia patients, but the lack of micronutrients and macronutrients get help in this process. As well as malabsorption of nutrients from the gastrointestinal tract due to swelling in the lining of the gastrointestinal tract plays an important role in the development of cachexia patients.

**Objectives**
The aim of this study is to review the nutritional aspects of cachexia patients with heart failure.

**Methods**
This study is review's from case-control, cross-sectional, prospective articles were searched by using the databases PubMed, GoogleScholar in the period between 1990 - 2015 .

**Results**
evidence suggests the issue that there is no comprehensive agreement on the definition of cachexia. In the case of cardiac cachexia not only substantially reduce the amount of muscle mass, but also is reduced in the total body fat mass and bone mass. The precise mechanisms of cachexia in such patientsis not fully understood. Because heart failure is a catabolic state and many factors contribute to the pathogenesis of cardiac cachexia improving the way things are difficult to treat.

**Conclusions**
The pathophysiology of cardiac cachexia are very complex and need further study in the field of cognitive mechanisms involved in the pathophysiology of the disease. The goal of future research should focus on understanding the hormonal factors that affect energy balance, since absorption from the gastrointestinal tract, nutrient supplementation for the treatment of the disease and the types of tube feeding in these patients.
eP184

BASELINE CYTOKINES AND SYMPTOM DEVELOPMENT IN PATIENTS WITH HEAD AND NECK CANCER.
B. Schulze1
1OHSU, School of Nursing, Portland, USA

Introduction
Patients with head and neck cancer (HNC) are particularly vulnerable to developing symptoms associated with cachexia. The association between pre-treatment cytokines and symptoms of cachexia is unknown.

Objectives
To examine if pre-treatment levels of cytokines associated with changes over-time in reported symptoms of cachexia.

Methods
This study was a secondary analysis of data from a four-year prospective longitudinal, descriptive study. Data values were collected on 56 patients at the initiation and conclusion of treatment as well as at 6 and 12-months. The Vanderbilt Head and Neck Symptom Survey (VHNSS) was used to measure symptoms. The operationalization of “change” in symptoms was accomplished by subtracting baseline symptom scores from respective values at 6-months and 12-months post-treatment. A multiple linear regression of baseline cytokines on each of the resulting symptom change values was conducted.

Results
Lower TGF-β2 (p=0.002) and higher CRP (p=0.035) prior to treatment associated with increased depression at 12-months. Higher baseline levels of IL-6 (p=0.006), IL-10 (p=0.008) and MMP2a (p=0.035) associated with worsening nutrition consumption at 6-months. Baseline lower levels of TGF-β1 (p=0.014), IFN-γ (p=0.048) at 6-months and IL-6 (p=0.041) at 12-months associated with worsening nutrition symptoms. Higher initial levels of IL-6 (p=0.006), IL-10 (p=0.003) were associated with increased difficulty swallowing solids at 12-months. Higher IL-1β associated with increased mucositis symptoms 6-months post-treatment (p=0.035) and pain at 6-months (p=0.031). Higher initial IL-6 associated with worsening xerostomia at 6-months (p=0.042) and IL-10 at 6-months (p=0.021) and 12-months (p=0.024).

Conclusions
Pre-treatment cytokines may indicate the future development of HNC patient symptoms.

Kashiwa, Japan

Introduction
Cancer anorexia-cachexia leads advanced cancer patients to poor prognosis and quality of life. Recently, activation of ghrelin and ghrelin receptor (GHS-R) signaling has been proposed as a potential target. Expecting the precise mechanisms have been not understood. Although some suggested the correlation between ghrelin signaling and olanzapine, the effect of olanzapine on GHS-R activity has not been studied.

Objectives
This study investigated whether olanzapine activates GHS-R-mediated signaling in cells expressing the human GHS-R.

Methods
Various concentrations of ghrelin, olanzapine, and haloperidol (an antipsychotic agent) were applied alone or together to HEK293A cells expressing or not expressing GHS-R in an electrical impedance-based receptor biosensor assay system (CellKey™, Ca2+ imaging assay and phosphorylated extracellular signal-regulated kinase (pERK1/2) assay.

Results
Olanzapine (10⁻⁷ and 10⁻⁶ mol/L) enhanced ghrelin-induced (10⁻⁷-10⁻⁴ mol/L) GHS-R activation in CellKey™ assay. Ca²⁺ imaging assay also revealed that olanzapine (10⁻⁷ and 10⁻⁶ mol/L) enhanced ghrelin (10⁻⁷ M)-induced GHS-R activation. The pERK 1/2 assay could not show the activation of ghrelin-induced GHS-R by olanzapine. In contrast, haloperidol failed to enhance this ghrelin-induced GHS-R activation as demonstrated by any conditions.

Conclusions
The results suggest that olanzapine may promote appetite and improve cancer anorexia-cachexia by enhancing ghrelin-mediated GHS-R signaling.

eP185

TYPICAL ANTIPSYCHOTIC OLANZAPINE POTENTIATES OREXIGENIC GHRELIN-INDUCED RECEPTOR SIGNALING: AN IN VITRO STUDY WITH CELLS EXPRESSING CLONED HUMAN GROWTH HORMONE SECRETAGOGUE RECEPTOR.
K. Tagami1,2, Y. Kashiwase1, A. Yokoyama3, H. Nishimura1, K. Miyano1, M. Suzuki1, S. Shiraishi1, M. Matoba2, Y. Uezono1,2
1National Cancer Center Research Institute, Cancer Pathophysiology, Tokyo, Japan
2National Cancer Center Hospital East, Palliative Medicine, Tokyo, Japan

Introduction
Cancer anorexia-cachexia leads advanced cancer patients to poor prognosis and quality of life. Recently, activation of ghrelin and ghrelin receptor (GHS-R) signaling has been proposed as a potential target. Expecting the precise mechanisms have been not understood. Although some suggested the correlation between ghrelin signaling and olanzapine, the effect of olanzapine on GHS-R activity has not been studied.

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Olanzapine (10⁻⁷ and 10⁻⁶ mol/L) enhanced ghrelin-induced (10⁻⁷-10⁻⁴ mol/L) GHS-R activation in CellKey™ assay. Ca²⁺ imaging assay also revealed that olanzapine (10⁻⁷ and 10⁻⁶ mol/L) enhanced ghrelin (10⁻⁷ M)-induced GHS-R activation. The pERK 1/2 assay could not show the activation of ghrelin-induced GHS-R by olanzapine. In contrast, haloperidol failed to enhance this ghrelin-induced GHS-R activation as demonstrated by any conditions.

Conclusions
The results suggest that olanzapine may promote appetite and improve cancer anorexia-cachexia by enhancing ghrelin-mediated GHS-R signaling.

eP186

CHARACTERIZATION OF ADVANCED PANCREATIC CANCER PATIENTS SHOWING A DECREASE OF THE SKELETAL MUSCLE MASS WHILE RECEIVING FIRST-LINE CHEMOTHERAPY

212
**Oral Nutritional Supplements (ONS)** augment food intake in those at risk of malnutrition. Success depends on patient compliance, palatability and tolerance. ONS selection is typically dietitian-led. Factors influencing dietitians’ ONS prescribing practice are poorly understood.

**Objectives**
1. Examine dietitian hedonic impression of 3 ONS products
2. Explore ONS prescribing practices
3. Study phenylthiocarbamide (PTC) sensitivity in relation to ONS taste preferences

**Methods**
Ethical approval from local committee. General clinical dietitians completed the following
- Hedonic Tests (5) of 3 ONS products
  - Low Volume Milkshake: 125ml/300kcal/12g protein
  - Protein Rich Milkshake: 200ml/300kcal/20g protein
  - Dessert: 125g/225kcal/12.5g protein
- The characteristics of Appearance, Smell, Taste, Aftertaste, Consistency and Overall Impression were rated using a 7-point hedonic scale (1=Like a lot - 7=Dislike a lot)
- Prescribing Practice Questionnaire
- PTC Test

**Results**
- 31 dietitians participated.
- Overall Impression was favourable (Hedonic rating 1, 2 or 3: 87%) across all products.
- Taste ranked more positively than all other characteristics across all products, 90% liked the taste of low volume milkshake, 88% the dessert and 80% the protein rich milkshake.
- Nutritional value, palatability and patient acceptability were ranked the most important factors in prescribing.
- 7 of 31 had positive PTC result

**Conclusions**
1. Product palatability and overall impression were high among dietitians.
2. Low-volume, nutrient-dense milkshake was ranked most positively for taste.
3. ONS acceptable and palatable way to assist nutrition.
4. Important considerations in ONS prescribing were identified.

**Intervention**
Malnutrition in cancer is a poor prognostic indicator resulting in diminished tolerance of anti-cancer therapy, poor patient outcomes and reduced survival rates.
related cachexia is pancreatic exocrine insufficiency causing nutrient malabsorption.

**Objectives**
To determine the feasibility and acceptability of creon for patients with advanced pancreatic cancer.

**Methods**
Patients with advanced or metastatic pancreatic cancer, without frank malabsorption, were randomized to receive pancreatic enzyme supplementation with creon 50,000 units with meals and 25,000 units with snacks, up to 44 weeks duration. Standardized dietary advice was given, and concurrent anti-cancer and other supportive care medications were permitted. Outcomes included recruitment rate, medication adherence, BMI, quality of life (QLQC30, PAN26), survival and nutritional assessment (PGSQA).

**Results**
Eighteen patients were randomised. Baseline characteristics were well matched. Weight loss prior to diagnosis was numerically greater in the creon group (mean 0.7kg vs 2.2kg). Quality of life did not differ between study groups. Weight was numerically lower in the placebo group, however the trend did not reach significance overall. No differences in BMI or nutrition score were seen. Median overall survival was 17 (95% CI 8.1–48.7) weeks in the control group, and 67.6 (95% CI 14.1–98.4) weeks in the creon group (p=0.1063). Only 17% (18/106) of potentially eligible patients were recruited, related to patient/family reluctance, rapid clinical deterioration and patients already prescribed creon. A moderate pill burden was noted.

**Conclusions**
Despite encouraging survival results, this study was not sufficiently feasible or acceptable to proceed to a comparative study.

**eP189**

**A BOON OF NATURE ALOEVERA AGAINST THE CURSE OF RADIATION INDUCED XEROSTOMIA AND ORAL FIBROSIS**

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**Introduction**
Oral cavity is highly susceptible to toxic effects of ionizing radiation in cancer patients. Development of new treatment modalities to prevent cancer therapy-induced complications, especially xerostomia and oral fibrosis.

**Objectives**
As has been noted, it is essential that a multidisciplinary approach be used for oral management of the cancer patient before, during, and after cancer treatment. Oral complications from radiation to the head and neck can compromise patients’ health and quality of life. Recently, herbal medicine has been used to treat radiation induced xerostomia and oral fibrosis. We conducted a double-blind, prospective, randomized trial, we determined whether oral aloe vera gel can reduce radiation-induced xerostomia and oral fibrosis in head-and-neck cancer patients.

**Methods**
study was started in S.P.M.C., Bikaner, Rajasthan. A total of 250 subjects they were divided randomly into following experimental groups: 1) Irradiated control group 2) aloe-vera experimental group. Unstimulated saliva samples were collected at the base line and 4 weeks after the usage of the 5 mg aloe vera gel. They were analysed subjective symptoms as intra-oral dryness, eating ability and oral discomfort were graded by visual analogue scale.

**Results**
Data analysis study groups that had been given aloe vera, by ANOVA showed that there was statistically significant difference (P < 0.05) in salivary flow, eating ability and oral discomfort as graded by visual analogue scale

**Conclusions**
Within the limitations of this study aloe vera is effective as a radioprotective or antioxidant agent for preservation of glandular tissue and reduce fibrosis, as it helped to maintain salivary function and oral comfort.

**eP190**

**THE IMPORTANCE OF COORDINATION BETWEEN HEMATOLOGY AND DENTISTRY: A RETROSPECTIVE STUDY ON THE DEVELOPMENT OF BRONJ IN PATIENTS AFFECTED BY MULTIPLE MYELOMA**


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**Introduction**
Multiple myeloma is a rare tumor, localized predominantly in the bone marrow.
Endovenous bisphosphonates are usually administered to patients affected by this disease. As widely reported in the Literature, development of ONJ is a possible side effect.

**Objectives**
The present 5 years retrospective study was intended to evaluate the efficacy of appropriate dental treatment protocols before starting bisphosphonate therapy, to prevent ONJ development.

**Methods**
99 patients affected by symptomatic multiple myeloma have been involved in this study.
Data concerning visits and dental treatments were outlined using a specific server and consulting clinical reports. AAOMS guidelines were applied for both diagnosis and treatment.
79 patients were visited before Zoledronate administration (group A) and 20 after (group B).

**Results**
All patients required dental treatment: 23.2% underwent restorative therapy, 8% endodontic therapy, 44.4% extractions. Periodontal disease affected 41.4% of the patients.
No osteonecrosis was observed in group A, whereas ONJ was found in 5 patients of group B (25%) and 2 patients (10%) presented osteosclerotic areas in phase of assessment [OR 0.026 (CI 0.0027 to 0.2454)].

**Conclusions**
There are no data regarding the exact prevalence of BRONJ in the Literature. Within the limits of this retrospective study we point out that diagnosis and dental treatment before starting the treatment with endovenous bisphosphonates
significantly reduce the incidence of ONJ. RCTs and a long-time follow-up are needed to confirm this statement.

**eP191**

**PATIENT-REPORTED OUTCOMES (PRO) IN POSTMENOPAUSAL WOMEN WITH HR+ METASTATIC BREAST CANCER (MBC) TREATED WITH EVEROLIMUS/EXEMESTANE (EVE/EXE) AND DEXAMETHASONE-BASED MOUTHWASH (MW): THE SWISH TRIAL**


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**Introduction**

Stomatitis is a class-effect of mTOR inhibitors such as EVE. The SWISH trial reported marked decrease in stomatitis incidence and severity in HR+ MBC patients receiving EVE/EXE and prophylactic dexamethasone MW.

**Objectives**

SWISH trial evaluated prophylactic use of dexamethasone MW in preventing stomatitis in postmenopausal women with HR+ MBC receiving EVE/EXE. SWISH PRO are reported here.

**Methods**

Patients prescribed EVE 10 mg/EXE 25 mg QD received dexamethasone MW 10 mL (0.5 mg/5 mL) to swish x2 minutes and spit QID for 8 weeks. ECOG status was monitored at baseline and 8 weeks. Patients completed daily logs, recorded normalcy of diet scale (NDS) and oral pain visual analog scale (VAS; 0-10) scores, and advised to maintain good oral hygiene. Patients with Grade 1 stomatitis onset rinsed with saltwater, followed by steroid MW.

**Results**

92 women were enrolled; 86 were evaluable. 95% of patients used MW 3-4 times/day (median=3.95 [1.9-4]). >70% remained on all 3 drugs at ≥8 weeks. >90% experienced no/few diet restrictions (Table 1); ≤6% of patients reported NDS 40-60 that resolved with later cycles. In the 75 patients with complete ECOG scores, 88% maintained/improved ECOG status (Table 2). Mean VAS ranged from 0.1 to 0.6. >90% brushed 1-2 times/daily; 93% used soft toothbrush; 70-75% flossed daily.

**Conclusions**

Concomitant daily use of dexamethasone MW is well-tolerated and can be an effective treatment to prevent stomatitis and when coupled with good oral care may maintain or improve normal diet and quality of life, minimizing the negative impact of EVE-related stomatitis.

**eP192**

**AN OBSERVATIONAL STUDY OF THE FREQUENCY OF ORAL SYMPTOMS IN PATIENTS WITH ADVANCED CANCER**

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**Introduction**

Oral symptoms are common in patients with advanced cancer, but the frequency of many oral symptoms remains unknown in this group of patients.

**Objectives**
To determine the frequency of recognised oral symptoms in patients with advanced cancer.

**Methods**

250 patients with advanced cancer were asked to complete a newly developed oral assessment tool (the Oral Symptom Assessment Scale / OSAS). The OSAS is based on the Memorial Symptom Assessment Scale, and asks about the presence of 20 oral symptoms, with the option to include "other" oral symptoms (if appropriate); if the patient has a symptom, then they are asked to rate the frequency, severity and bothersomeness of the symptom.

**Results**

The frequency of oral symptoms ranged from 84% ("dry mouth") to 8% ("burning sensation mouth"). 97.6% patients had at least one oral symptom, and the median number of oral symptoms was 5 (range 1-18). Symptoms were often frequent, moderate-to-severe in intensity, and associated with significant distress ("bothersomeness"). In the case of dry mouth: a) frequency - 33.5% "almost constantly", 38.8% "frequently"; b) severity - 9.6% "very severe", 26.4% "severe", 40.9% "moderate"; c) bother - 14.6% "very much", 25.1% "somewhat", 23.4% "quite a bit".

**Conclusions**

Many oral symptoms are common in patients with advanced cancer, and these symptoms are associated with a significant impairment of quality of life.

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**eP193**

**SALIVARY GLAND HYPOFUNCTION MEDIATED BY 5-FUOROURACIL GENERATES INFLAMMATION AND OXIDATIVE STRESS**

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**Introduction**

Xerostomia is a common and debilitating morbity that may be concomitantly presented with oral mucositis. Both xerostomia and oral mucositis can affect patient’s quality of life during and after antineoplastic treatment.

**Objectives**

The aim of this study is to elucidate the effect of 5-fluorouracil (5-fu) on major salivary glands, salivary flow and saliva on induced oral mucositis model in hamsters.

**Methods**

Oral mucositis was induced based on a previously described model. Before animal’s euthanasia, salivary flow was measured, saliva composition evaluated and samples of salivary glands were harvested for histopathological analysis, inflammatory cell count, oxidative stress parameters and pro-inflammatory cytokines assay.

**Results**

5-fu reduced stimulated and unstimulated salivary flow rate on the 4th experimental day (p<0.05) and saliva composition was affected mainly on the 10th experimental day (p<0.05). Also, 5-fu promoted vacuolization in parotid gland (p<0.05) and periductal edema in submandibular gland (smg) (p<0.05). Inflammation and pro-inflammatory cytokines were mostly observed in smg on the 10th experimental day.

**Conclusions**

In conclusion, our results suggest that 5-fu causes oxidative stress and inflammation, mainly in smg causing periductal edema and cell death, which result in reduced salivary gland function and quality of saliva. The knowledge of the anticancer drug’s effect on the salivary glands will be able to contribute to the proper management of xerostomia and oral mucositis.

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**eP194**

**ROLE OF DENTAL INTERVENTION IN IMPROVING QUALITY OF LIFE FOR PATIENTS OF ORAL CANCER, WITH PAIN OF DENTAL ORIGIN, POST RADIOTHERAPY TREATMENT.**

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**Introduction**

Dental care is one of the most neglected aspect among previously treated oral cancer patients. Mastication efficacy is compromised due to radiation caries, acute pulpitis, periodontal abscess and dental space infections. This severely affects the overall nutritional status and quality of life.

**Objectives**

Present study aims in analysing the effect of dental intervention in controlling pain of dental origin and improvement in quality of life, in patients who have completed radiotherapy treatment.

**Methods**

50 patients diagnosed with oral cancer who have been treated with radiotherapy with pain of dental origin were enrolled in the study. European organisation for research and treatment of cancer C 30 version 3 and HN 35 Index were recorded before and after dental interventions.

**Results**

Patient reported significant reduction in pain of dental origin, reduction in inflammation, abscess and improvement in quality of life scores. Global health status scores, Social functioning, overall pain, oral pain, tooth problems, use of pain killers and social eating all reported statistical significant improvement after dental intervention.

**Conclusions**

Incorporation of a dental care as a necessary adjunct in oral cancer supportive care is essential to maintain good overall quality of life in previously treated oral cancer patients.

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**eP195**

**RELATIONSHIP BETWEEN ORAL COMPLICATIONS AND DENTAL CONDITIONS IN THE PATIENTS UNDERGOING ANTI-CANCER THERAPY: A RETROSPECTIVE STUDY**

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Introduction

Oral supportive care including oral and dental care and management of oral complications is important for cancer patients undergoing anti-cancer therapy.

Objectives

This retrospective study evaluated the relationship between oral complications and dental condition in patients undergoing chemotherapy or radiotherapy.

Methods

Clinical records for 600 consecutive patients from March 2014 to October 2015 were analyzed. Patient dental condition (number of remaining, decayed and fixed teeth; severity of periodontal disease; and oral hygiene status) were checked before the start of anti-cancer therapy. Oral supportive care was continued to maintain good oral hygiene, and to detect and manage oral complications early.

Results

Patients were 348 males and 252 females aged 17-94 years. Primary site of cancer was head and neck in 104, lung in 100, esophagus in 67, colon in 59, hematological malignancy in 57, breast in 48, and others in 165. Treatments were chemotherapy in 221, radiotherapy in 216, and concurrent chemoradiotherapy in 163. NCI CTC-AE grade 3-4 oral complications occurred in 125 patients, namely oral mucositis, dental infection, and medication-related osteonecrosis of the jaw. Patients with G3-4 oral complications had worse oral hygiene and fewer remaining teeth than those with G1-2 oral complications. Rate of improved oral hygiene status at 3 months after starting anti-cancer therapy was higher in patients with G1-2 oral complications.

Conclusions

Oral supportive care for cancer patients receiving anticancer therapy should begin before the start of treatment and continue until the successful completion of treatment, especially for patients with poor oral hygiene or a small number of remaining teeth.

eP196

ADMISSION RATES FOR SUPPORTIVE CARE IN HEAD AND NECK PATIENTS UNDERGOING UNILATERAL OR BILATERAL NECK RADIOTHERAPY OR CHEMORADIOTHERAPY

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Introduction

With the development of Intensity Modulated Radiotherapy (IMRT), for head and neck cancer, more focused treatment can be attempted with reduced radiation dose to defined organs at risk (OARs), reducing late morbidity. However, acute radiotherapy reactions may have become more severe, with IMRT, using spiral or arc radiation delivery systems. These techniques, allow well defined high-dose radiation volumes to cover the tumour and nodes if required, and give lower dose to the "organs at risk", than could be achieved with previous conventional radiotherapy techniques. However, they also deliver a low dose to more normal tissue, giving a low-dose "radiation bath" to non-involved areas.

Objectives

Some head and neck cancer patients receiving IMRT still require admission for supportive care, usually during the second half of the treatment. Anecdotally those patients receiving bilateral neck radiotherapy, are admitted more frequently and for longer inpatient stays. This study objectives are to ascertain whether this impression is true, and if it is, to describe the reasons for, duration and treatment required during admission.

Methods

This study reviews retrospectively the admission rates for supportive care in a consecutive head and neck patient population in a large regional oncology centre, and examines those factors which caused admission, including age, performance status, gender, total volume irradiated, whether chemotherapy was added to radiotherapy and whether unilateral or bilateral nodal irradiation was given.

Results

The main symptoms initiating admission, length of inpatient stay and supportive measures required for acute radiation morbidity are described.

Conclusions

Potential strategies to mitigate or avoid admission are explored.

eP197

RELATIONSHIPS AMONG MALNUTRITION AND ORAL FUNCTIONS IN HOSPITALIZED CANCER PATIENTS


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Introduction
Malnutrition often increases the risk of serious complications and poor prognosis in hospitalized patients. Relationships between oral functions and malnutrition have been gradually revealed in community dwelling people, but is not well known in hospitalized patients.

Objectives
In the present study, we conducted a cross-sectional study to test the hypothesis that oral functions were declined in hospitalized cancer patients with malnutrition.

Methods
Hospitalized cancer patients who visited our dental clinic in the hospital from October, 2015 to January, 2016 were recruited. We measured oral functions such as the number of teeth, tongue pressure, chewing ability and so on for each patient. Nutritional status was assessed with Mini Nutrition Assessment and, it was devided into normal (12-14), at risk (8-11), and malnutrition (0-7). QOL and ADL were also assessed with EORTC QLQ-C15-PAL and Barthel Index, respectively. We examined whether oral functions and general condition were differed by nutritional status using ANOVA.

Results
A total of 89 cancer patients were participated in this study. Tongue pressure, chewing ability and the number of teeth were significantly lower in patients with malnutrition than in those with normal or at risk. QOL and ADL were also lower in patients with malnutrition.

Conclusions
The results demonstrated that decline of oral functions were associated with malnutrition in hospitalized cancer patients. Our findings indicate that supports with oral care and dental treatment would be needed for hospitalized patients to improve their nutritional status.

eP198
BACTERIAL SUBSTITUTION ON THE ORAL MUCOSA BEFORE AND AFTER HEMATOPOIETIC CELL TRANSPLANTATION: GENE-LEVEL ANALYSIS BY PCR-DENATURING GRADIENT GEL ELECTROPHORESIS
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Introduction
Oral mucositis after hematopoietic cell transplantation (HCT) is a possible risk factor for systemic bacteremia infection. Recently, we reported dramatic bacterial substitution of oral mucosal bacterial flora from the results of surveillance culture. However, difficult-to-culture bacteria may not be detected.

Objectives
This study compared the bacterial flora of patients in detail before and after HCT using PCR-denaturing gradient gel electrophoresis (DGGE).

Methods
Three allo-HCT patients administered only levofloxacin prophylactically and three other patients administered vancomycin or teicoplanin for severe general infection after allo-HCT were enrolled in the study. Bacterial DNA samples were obtained from the buccal mucosa before and after HCT, and subjected to PCR-DGGE to evaluate bacterial flora. Changes in band pattern were evaluated. The DNAs in the bands were sequenced, and DDBJ-BLAST search was performed to identify bacteria.

Results
PCR-DGGE band pattern changed markedly after HCT in the group treated with vancomycin and/or teicoplanin. Staphylococcus epidermidis, Staphylococcus capitis, and Veillonella spp. were identified after HCT. Interestingly, Lautropia mirabilis, which is rare and was newly identified recently, was dominant in one patient. Little change was observed in the group treated with only prophylactic antibiotics.

Conclusions
PCR-DGGE provided detailed information regarding bacterial substitution on the oral mucosa. Oral mucositis after HCT could be a route of infection by bacteria that are not normally part of the oral flora.

eP199
COMPARATIVE IN VITRO ANTIBACTERIAL TESTING OF Povidone-Iodine and Other Commercially Available Oral Antiseptics Based on Current European Suspension Assay
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Introduction
Antiseptics are used for a variety of oropharyngeal conditions such as oral mucositis. Once applied, they are diluted by saliva, swallowed or otherwise deactivated, potentially altering antibacterial effects.

Objectives
To evaluate in vitro bacterial susceptibility to commercially available oral antiseptic products, with focus on rapid microbicidal effect.

Methods
Relevant oral bacteria (MRSA and Pseudomonas aeruginosa [sources of opportunistic infection], Streptococcus mutans [associated with tooth decay] and Streptococcus sanguinis [a marker of healthy oral flora]) were evaluated in vitro by bactericidal quantitative suspension assay (DINEN1276). To imitate real-life use, antiseptic products were tested undiluted (lozenges were dissolved 1:1 with water) and at defined dilutions. Bacteria were exposed to each antiseptic for 30 seconds, neutralized and reduction in survival rate was calculated.

Results
Povidone-iodine (BETADINE®: 1% and 7.5% gargle and 0.45% throat spray) were highly effective against all bacteria tested, with >5 log-fold (99.999%) reduction of bacteria, both undiluted and at 2:1 and 3:1 dilutions. Chlorhexidine 0.2% mouthwash was ineffective against MRSA and, diluted 4:1, against Streptococcus mutans. Hexetidine 0.1% mouthwash (undiluted and diluted 4:1) was effective against Pseudomonas aeruginosa only. 1.2mg 2,4-dichlorobenzyl alcohol/0.6mg amylmetacresol lozenges were effective against Pseudomonas aeruginosa (1:1 and 2:1 dilution) and Streptococcus sanguinis (1:1 dilution). Thymol, benzydamine and salt water were ineffective against all bacteria tested.

Conclusions
Among tested antiseptics, only Povidone-iodine products were effective against all tested bacteria, with a quick onset of action undiluted and at defined dilution. These data may help in selection of antiseptics for oropharyngeal use and other clinically relevant uses.

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eP200
COMPARATIVE IN VITRO TESTING OF Povidone-Iodine and Other Commercially Available Oral Antiseptics Against Candida Albicans Based on Current European Suspension Assay
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Introduction
Oral candidiasis is a common infection in immunocompromised patients with cancer, HIV/AIDS and chronic corticosteroid use. Local antiseptics are a treatment option, in addition to systemic antifungal agents. Once applied, local antiseptics are diluted by saliva, swallowed or otherwise deactivated, potentially altering their efficacy.

Objectives
To evaluate in vitro susceptibility of Candida albicans to commercially available oral antiseptic products and demonstrate a rapid antifungal effect (after 30 seconds), since patients are reluctant to retain therapeutic solution in the oral cavity/pharynx.

Methods
To simulate real-life usage, antiseptic products were tested undiluted (lozenges were dissolved 1:1 with water) and at defined dilutions. Susceptibility of Candida albicans was evaluated using a fungicidal quantitative suspension assay (DINEN1650). Candida albicans was exposed to the antiseptic product for 30 seconds, neutralized and the reduction in survival rate was calculated; a >4 log-fold (99.99%) reduction represented effective antifungal activity.

Results
Povidone-iodine (BETADINE®: 1% and 7.5% gargle, 0.45% throat spray) were highly effective, with >4.09 log-fold decrease of Candida albicans undiluted and dilutions 2:1 and 3:1. Chlorhexidine 0.2% and hexetidine 0.1% mouthwashes were effective undiluted but had an antifungal activity gap at 4:1 dilution. Thymol, salt water, 2,4-dichlorobenzyl alcohol 1.2mg/amylmetacresol 0.6mg lozenges and benzydamine lozenges showed no antifungal activity with 30 seconds of exposure.

Conclusions
Among tested antiseptics, only povidone-iodine products were effective against Candida albicans in vitro with fast onset of action undiluted and at defined dilutions. These data may help healthcare professionals and consumers select antiseptics for both prophylaxis and management of oral candidiasis.

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eP201
REDUCING THE RECURRENCE OF ORAL CANDIDIASIS BY PROLONGED ADMINISTRATION OF LOWER DOSE OF FLUCONAZOLE DURING HEAD AND NECK RADIOTHERAPY
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Introduction
Oral candidiasis commonly developing during radiation therapy of head and neck cancer. Fluconazole administered at 150 mg daily for fifteen days is associated with recurrence of candidiasis during mucosal compromising radiotherapy.

Objectives
To evaluate the effectiveness of the alternative regime of fluconazole at 100 mg once daily for 21 days instead of conventional dosing of 150 mg once daily for 15 days in patients receiving head and neck radiotherapy.

Methods
Head and neck cancer patients receiving radio- and radio-chemotherapy developing pain, dysphagia were examined clinically for any signs of oral candidiasis at outpatient clinic of Kidwai Memorial Institute of Oncology, Bangalore. Patients showing clinical signs of candidiasis were administer fluconazole at 100 mg per day for 21 days instead of 150 mg daily for 15 days. These measure were supplemented with head and neck cancer supportive care protocol of garlic and steam inhalation.

Results
None of the patients administered head and neck cancer supportive care prophylactic protocol developing candidiasis had recurrence of oral candidiasis and associated symptoms during the period of radiation therapy with fluconazole 100 once a day for 21 days protocol and is well tolerated in all except one patient.

Conclusions
Patient with fluconazole 100 mg protocol did not show any recurrence of candidiasis in patients receiving head and neck radiotherapy.

eP202
APPLICATION OF 5% ACETIC ACID AS A DIAGNOSTIC ADJUNCT IN THE DETECTION OF EPITHELIAL DYSPLASIA OF ORAL
POTENTIALLY MALIGNANT DISORDERS

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Introduction
Oral potentially malignant disorders (OPMDs) are characterized by increased risk of malignant transformation to oral cancer. Oral screening is the key to diagnosing OPMDs at an early stage. However, infrastructure and resources required are beyond reach for Nepal, hence lesser opportunities to diagnose OPMDs at an early stage, and most present at advanced stage. Thus, non-cytological methods for screening reduce prevalence and incidence of OPMDs, one of which is use of 5% acetic acid (AA). It is commercially available vinegar and is the most cost effective method of detecting OPMDs.

Objectives
To assess sensitivity, specificity and accuracy of 5% AA for the diagnosis of OPMDs

Methods
One Hundred samples were collected (50 OPMDs, 50 controls). AA (5%) was applied with cotton swab all over the lesion and surrounding area for 1 minute. Positive finding was designated as a lesion that changed the color to opaque white. Punch biopsy was done with 3-6 mm punch and sent for histopathological examination.

Results
Male to female ratio was 3:1. The association between gender and the risk factors (deleterious habits) also explains the ratio. Arecanut consumers were 75.75% followed by cigarette/Bidi/Pipes (66.66%), alcohol (45.45%), khaini (30.30%) and pan (24.24%). OPMDs diagnosed were oral submucous fibrosis, lichen planus, leukoplakia. The sensitivity, specificity and accuracy were 81.48%, 50% and 75.75% respectively.

Conclusions
5% acetic acid has high sensitivity and accuracy but low specificity in detecting OPMDs and thus can be used as an adjunct for oral cancer and OPMD screening.

eP203
PREVENTION OF EVEROLIMUS/EXEMESTANE (EVE/EXE) STOMATITIS IN POSTMENOPAUSAL WOMEN WITH HR+ METASTATIC BREAST CANCER USING A DEXAMETHASONE-BASED MOUTHWASH (MW): RESULTS OF THE SWISH TRIAL

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Introduction
Stomatitis is a complication of mTOR inhibition. In BOLERO-2 patients receiving EVE/EXE, incidence of stomatitis was 67% all grade, 33% grade ≥2 and 8% grade 3. Topical steroids are used for aphthous ulcers; anecdotal use as prophylaxis has been reported.

Objectives
Evaluate prophylactic use of dexamethasone MW in preventing stomatitis in postmenopausal women with HR+ metastatic breast cancer (MBC) receiving EVE/EXE.

Methods
Patients prescribed EVE 10 mg/EXE 25 mg QD received dexamethasone MW 10 mL (0.5 mg/5 mL) QID for 8 weeks, starting day 1. Patients completed a daily adherence log, including oral pain (0-10) and normalcy of diet score. Primary endpoint was incidence of grade ≥2 stomatitis at 8 weeks and compared with BOLERO-2 results. Secondary endpoints included MW usage, EVE/EXE dose intensity, and all grade stomatitis rate.

Results
92 women were enrolled; 86 were evaluable. Median age was 61 years (range 34-87); 38% received EVE/EXE in >2nd-line setting. Median dose intensity was 10 mg (range 3-14) and 25 mg (8-25) for EVE and EXE. 95% of patients used MW 3-4 times/day (median=3.95 [1.9-4]). 8-week
incidence of grade >2 stomatitis was 2.4% (n=2; Table). Mean pain score was <1 at all visits; 86% of patients reported regular diet at 8 weeks. 12% discontinued EVE/EXE due to suspected related adverse events (most common: 2% each rash and hyperglycemia, 1% each stomatitis and pneumonitis).

Conclusions
Prophylaxis with dexamethasone MW markedly decreases stomatitis incidence/severity in HR+ MBC patients receiving EVE/EXE and should be considered a standard of care in this setting.

eP204
ACETONE ANALYSIS IN PERIOPERATIVE PATIENTS OF LUNG CANCER UNDER ORAL HYGIENE PROGRAM
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3Tohoku University Graduate School of Dentistry, Oral Ecology & Biochemistry, Sendai, Japan
4Tohoku University Graduate School of Dentistry, Preventive Dentistry, Sendai, Japan

Introduction
Perioperative intensive oral care is a tool to prevent postoperative pneumonia after lung resection. Stress-induced increases in blood glucose are known and levels of breath acetone are reported to increase after surgery of lung resection. Noninvasive analysis of breath acetone might be a useful biomarker in oral supportive care for lung cancer patients.

Objectives
To analyze acetone levels in perioperative patients of lung cancer.

Methods
13 cancer patients (mean age 72.4 years) were enrolled into the study. Acetone levels in breath and mouth air were sampled by a portable gas chromatograph at bedside before breakfast during hospitalization on T1 (before oral care), T2 (after oral care but before operation), and on T3 (after operation). They were compared to each other. Correlation coefficients were determined between breath acetone and C-reactive protein (CRP), and between breath acetone and acetone in mouth air.

Results
There was a significantly positive correlation between value of breath acetone and CRP after operation (Spearman’s correlation r = 0.559, P = 0.03). Breath acetone and mouth acetone showed a significantly strong correlation (Spearman’s correlation r = 0.947, P < 0.001). Value of acetone in mouth air at T3 was significantly high compared to value at T2 (Wilcoxon’s signed rank test, P = 0.009).

Conclusions
Acetone in mouth air shows a strong correlation with breath acetone, which may reflect surgical stress in perioperative patients of lung cancer. This study was supported in part by JSPS KAKENHI Grant Number 23593083.

eP205
SMAD7 BLOCKS DNA DAMAGE IN RADIATION-INDUCED ORAL MUCOSITIS
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Introduction
We previously identified TGFβ activation in radiation-induced oral mucositis, and oral application of a TGFβ antagonistic protein, Smad7, with a cell permeable Tat-tag (Tat-Smad7) promotes oral mucositis healing in mice (Han et al., Nat Med, 2013). It remains to be determined if reduced apoptosis by Smad7 is the result of fewer damaged cells induced by radiation.

Objectives
Determine if Smad7-mediated cell protection is due to reduced DNA damage during radiation-induced oral mucositis healing.

Methods
Wildtype mice orally treated with Tat-Smad7, transgenic mice with Smad7 overexpression in oral mucosa or keratinocytes transduced with Smad7 were exposed to radiation. DNA damages, cell survival and mucositis healing were measured.

Results
Irradiated mice with Smad7 transgene or Tat-Smad7 treatment had reduced ulcers and fewer cells positive for pH2AX, a marker for DNA damage and for 8-OHdG, a marker for oxidative stress, compared to control mice. To determine if these reflect direct Smad7 functions in keratinocytes, we transduced human oral keratinocytes with an adenoviral Smad7 (adv.Smad7) or a control (adv.Controls) vector. Keratinocytes were irradiated 48h after transduction. Smad7 transduced cells had less DNA breakage than control cells measure by alkaline comet assay. Reactive oxygen species (ROS) levels in irradiated keratinocytes were also reduced by Smad7 transduction. Further, Smad7 increased survival in irradiated normal but not cancer cells.

Conclusions
Smad7 functions as a radio-protector and -mitigator in oral mucositis, which contributes to its prophylactic and treatment effects on radiation-induced oral mucositis.

eP206
MULTICENTER PHASE II STUDY OF ORAL CARE PROGRAM FOR PATIENTS WITH HEAD AND NECK CANCER RECEIVING CHEMORADIOTherapy
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Introduction
Oral mucositis (OM) is one of the most adverse events induced by chemoradiotherapy and greatly reduces the quality of life for patients with head and neck cancer (HNC). Several studies demonstrate the importance of oral care during chemotherapy. However, there is no systematic multidisciplinary oral care protocol for HNC patients treated with chemoradiotherapy.

Objectives
This multicenter phase II trial assessed the clinical benefits of a multidisciplinary oral care program in reducing the incidence of severe chemoradiotherapy-induced OM.

Methods
HNC patients who were to receive definitive or postoperative chemoradiotherapy were enrolled. The oral care program included routine oral screening by dentists and instructions regarding oral care, nutrition, and a leaflet on lifestyle changes. Oral hygiene and oral care were evaluated continuously during and after the course of chemoradiotherapy. The primary endpoint was the incidence of grade ≥3 OM assessed by certified medical staff according to the Common Terminology Criteria of Adverse Events version 3.0.

Results
One hundred and twenty HNC patients were enrolled from April 2012 to December 2013. Sixty-four patients (53.3%) developed grade ≥3 OM (i.e., functional/symptomatic). The incidences of grade ≤1 OM at 2 and 4 weeks after radiotherapy completion were 34.2% and 67.6%, respectively. Clinical examination revealed that 51 patients (42.5%) developed grade ≥3 OM during chemoradiotherapy. The incidences of grade ≥1 OM at 2 and 4 weeks after radiotherapy completion were 54.7% and 89.2%, respectively.

Conclusions
A systematic oral care program alone is insufficient for decreasing the incidence of severe OM in HNC patients during chemoradiotherapy.

eP207
WHEN I AM AFRAID, HOW WOULD I LIKE TO BE MET, AND WHAT CAN I DO MYSELF TO MAKE THE SITUATION EASIER?
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Introduction
It is well-known that children and adolescents can experience fear related to cancer. However, the fear might vary during the course of the illness. Acute Lymphatic Leukemia (ALL) is the most common cancer in childhood.

Objectives
The aim with the study was to determine the most prominent fears at three time points during the treatment period for childhood ALL, and to describe what the children and adolescents themselves find to be beneficial for reducing or preventing their fears.

Methods
23 children and adolescents diagnosed with ALL (aged 5-18 years) were followed during the 2.5 year treatment period. Interviews were conducted at 2 months and one year after the diagnosis, as well as at the end of treatment, after 2, 5 years. Data will be analyzed with a qualitative content analysis.

Results
Preliminary results: It was hard for the participants to decide on one single fear, at the time for the interviews. For the younger children the fear of medical procedures was most prominent, and they more often revealed similar fear during the treatment period. However, they adapted to the situation and found strategies to handle their fears. For the older participants, the fears varied more from one time point to another. Generally, the parents were the most important persons to turn to for support, although professionals and friends also contributed to decreased fears.

Conclusions
It is important for professionals working with children and adolescents to become knowledgeable with their fears and own strategies to provide a person-centered care.

eP208
DEVELOPING AN INTEGRATIVE ONCOLOGY CARE APPROACH FOR PEDIATRIC PALLIATIVE CARE PATIENTS
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Introduction
In the U.S., there are approximately 15,000 new cancers diagnosed each year among children and adolescents (<19 years old). Although the current 5-year survival rate is >80% in this population, approximately 2,000 will die from cancer each year (SEER, April 2014). Early introduction of palliative care services can improve quality of life for patients/families and allows for a smooth transition to end-of-life care.

**Objectives**

CHOC Children’s Hospital is a 268-bed tertiary care hospital located in Southern California. The Hyundai Cancer Institute has approximately 185 new cancer diagnoses/year and cares for patients <25 yrs. The Cancer Institute developed a Palliative Care Program in 2005, which has evolved over the past ten years and became the model for the hospital’s Pediatric Advanced Care Team (PACT). The Integrative Oncology Care (IOC) Program uses an integrative medicine approach in the supportive care of patients with advanced care.

**Methods**

The IOC Program includes traditional Chinese medicine, aromatherapy, nutritional supplements, Reiki therapy, music and art therapy, rehabilitation services, psychological and spiritual care. In November 2015, a bi-monthly IOC Clinic was implemented for the purpose of symptom management and improving QOL. Clinical research will be conducted with the interventions evaluated using validated tools.

**Results**

Not available, since the program just started. Results will be presented next year.

**Conclusions**

This poster will present information about the development of our Integrative Oncology Care Program and share resources that have been developed.

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**eP209**

**RISK FACTORS OF INFECTION IN PEDIATRIC ACUTE LYMPHOBLASTIC LEUKAEMIA: 16-YEAR EXPERIENCE IN A SINGLE CENTER**


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**Introduction**

Infection is a common and major complication for pediatric acute lymphoblastic leukemia (ALL) patients during chemotherapy and may proceed severe morbidity and mortality.

**Objectives**

To evaluate the clinical characteristics and risk factors of infection.

**Methods**

Total 252 newly diagnosed pediatric ALL patients from 1997 to 2012 at National Taiwan University Hospital were retrospectively reviewed. The fever event was classified into fever of unknown focus (FUO), clinically documented infection (CDI) and microbiologically documented infection (MDI). Infectious sites were recorded by location: upper respiratory (EENT), lower respiratory (LRI), blood stream (BSI), genitourinary tract (GU), gastrointestinal tract, skin or soft tissue, central nervous system and others. Multivariate analysis for risk factors of infectious complications was evaluated by Poisson regression with incidence rate ratio (IRR).

**Results**

Total 219 patients (86.9%) had fever episode and the mean episode was 2.74 per person (range 1-13). Girls had more febrile neutropenia than boys (74.5% vs 63%, p = 0.036). The most common infection site was EENT, followed by BSI, LRI, and GU. Different infection type presented distinct clinical manifestation and laboratory findings at fever (Figure 1). Risk factors analysis revealed younger and higher risk patients had higher IRR for all kinds of infection. Female was a significant risk factor for MDI, LRI and GU infection (IRR= 1.469, 1.375 and 3.319; 95% CI= 1.257-1.716, 1.107-1.709 and 2.326-4.737). Obesity was an additional risk factors in MDI and GU infection (IRR= 1.286 and 1.988; 95% CI= 1.056-1.567 and 1.389-2.814).

**Conclusions**

Female and obesity were potential risk factors in infectious complications in pediatric acute lymphoblastic leukemia patients.

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**eP210**

**THREE YEAR EXPERIENCE OF PAKISTAN’S FIRST PEDIATRIC HEMATOLOGY ONCOLOGY INTENSIVE CARE UNIT**

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**Introduction**

Global statistics depicts rising cases of children suffering through haemoglobin disorders and early childhood cancers as the leading cause of morbidity and mortality worldwide. In 2011, AMTF took initiative in establishing Pakistan’s First Pediatric Hematology Oncology ICU with generous support from Government of Japan. PHOICU project was open for services in February 2012.

**Objectives**

The primary objective of this study is to review clinical data and outcomes of patient with hematology-oncology diseases in PHOICU. The article will illustrate work carried out in 3 year activity of first specialized PHOICU in Pakistan.
Methods
Descriptive exploratory study was conducted and retrospective data regarding patient admission was reviewed from patient’s chart and ICU record registers from February 2012 to January 2015. Data was obtained regarding patient age, sex, diagnosis, date and reason of ICU admission, comorbidities, length of ICU, and outcome and in case of mortality cause of death.

Results
Total number of admissions were 558, 762 and 652 in year 2012, 2013 and 2014 respectively. The admission trend over the period of three years is 67.1% pediatric oncology and 32.9% hematology in year 1, 49.6% pediatric oncology and 50.4% hematology in year 2, and 60.4% pediatric oncology and 39.5% hematology in year 3. Mean age of patients admitted is 8.26 years. Average length of stay in ICU was of 6.83 days.

Conclusions
More specialized ICU for pediatric patients diagnosed with hematological/oncological diseases are highly required. Pakistan’s first hematology/oncology ICU can serve as a model for future projects.

eP211
TELEPHONIC COMMUNICATION IN PALLIATIVE CARE FOR BETTER MANAGEMENT OF TERMINAL CANCER PATIENTS IN RURAL WEST BENGAL - AN NGO BASED APPROACH
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Introduction
Due to financial incapability and absence of manpower poor families often fail to carry their advanced cancer patients to the nodal centres. This pilot study will explore whether communication by mobile phone can lessen this burden.

Objectives
To identify and try to solve to the extent possible the main difficulties in giving palliative care to the terminal cancer patients of the area.

Methods
Initially a plan was generated regarding management of an advanced cancer patient in a nodal centre at District Head Quarter. Subsequently every two week a trained social worker attached to nodal centre will follow up and give necessary advice and emotional support to the patients and their families through their registered mobile phone number. Patient’s family were also encouraged to communicate with the team by phone in case of fresh complain and urgency in between.

Results
Since initiation, 193 cancer patients were contacted by mobile phone every two weeks to enquire about their difficulties. In 76% of the situation trained social workers offered by the team over phone. Only 24% of cancer patients has to attend the nodal centre for expert advice from Palliative Care specialists.

Conclusions
This novel approach helped
In providing regular physical and emotional support to the patients and their families.
In significantly reducing the financial and manpower problems of carrying patients to the nodal units.
In improve the quality of life of patients by continuous guidance.

eP212
DIFFERENTIAL RESPONSE TO EXTERNAL BEAM RADIATION THERAPY IN THE TREATMENT OF PAINFUL BONE METASTASES
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Introduction
Endometrial cancer metastasizes to bone in only 1% of patients. Conventional treatment of painful bony metastases has primarily involved external beam radiation treatment (EBRT) for pain relief. In cases where compression fractures occur, percutaneous vertebroplasty (PV) is a treatment option.

Objectives
The purpose of this case report is to document differential region-specific responses to radiation treatment in a patient with endometrial cancer and bone metastases.

Methods
A 50-year-old female with endometrial cancer and bone metastases presented with severe chest and lower back pain, rated 10/10. The patient was first diagnosed with endometrial cancer in July 2015 after imaging revealed a uterine mass. A CT scan and bone scan showed destructive lytic lesions in the sternum, lumbar spine, left acetabulum, and right ischium.

Results
Radiotherapy was prescribed with a dose of 20Gy/5 to the left pelvis, lumbar spine, and sternum. Following radiation, the patient reported significant pain relief in the sternum, but considerable residual pain in the lumbar spine. A subsequent MRI showed severe compression of the L2 vertebral body consistent with a vertebral plana. The patient underwent a PV procedure in November 2015. Upon follow-up, she
reported significant pain relief in her lower back.

Conclusions
Limited pain relief following EBRT to the spine may be associated with vertebral collapse. PV should be considered as an adjunct to EBRT in settings where there is a known or impending fracture and mechanical pain is likely involved.

eP213
SUPERIOR VENA CAVA SYNDROME: 3 CASES, MANY LESSONS LEARNED
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Introduction
Superior vena cava syndrome (SVCS) is a common complication of malignancy. Treatment varies according to tissue diagnosis and stage. Radiation and chemotherapy, once the standard approaches in the management of malignant SVCS, have serious limitations. Revascularization procedures represent an option.

Objectives
Provide an up-to-date review of current literature of management of malignant SVCS through three clinical cases.

Methods
Review of current literature, and application of knowledge to direct patient care.

Results
Case # 1: 47-year-old male with no cancer history, dysphagia, facial plethora and increasing swelling of neck and upper chest, found to have a large anterior mediastinal mass. Biopsy confirmed nodular sclerosis Hodgkin lymphoma. He began chemotherapy with resolution of SVCS.

Case # 2: 53-year-old male with left apical NSCLC metastatic to lymph nodes (LNs), who developed SVCS recurrence three months after treatment with radiation, requiring superior vena cava (SVC) and left innominate vein stenting with resolution of SVCS within 48 hours of the procedure.

Case # 3: 59-year-old female with colon adenocarcinoma metastatic to lungs and mediastinal LNs with increasing swelling of face and neck, hoarseness, and dysphagia 9 years after initial diagnosis and treatment. She underwent thrombolyis for SVCS, with resolution of symptoms within 48 hours.

Conclusions
SVCS is a complication that occurs when malignancies cause obstruction to the SVC. A tissue diagnosis is necessary to confirm the presence of a malignancy, as the treatment approaches may vary widely depending on the type of disease and whether an attempt will be made at definitive curative treatment as opposed to palliative approaches.

eP214
TIME TO RESPONSE (TTR): AN IMPORTANT UNDERTHREPORTED CLINICAL OUTCOME IN TREATMENT OF INCURABLE CANCER PATIENTS
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Introduction
Palliative chemotherapy in the treatment of patients with advanced cancer may improve quality of life and prolong survival. In patients with incurable cancer, advanced care planning (ACP) allows the mutual participation of the clinician and the patient to decide to pursue palliative chemotherapy based on the success and toxicities of each therapy in randomized clinical trials (RCT). Although patients may choose to risk adverse effects of cytotoxic therapy to obtain statistically-significant response and overall survival (OS), it may be difficult to judge the time beyond which the likelihood of palliative benefit has passed leaving the patient with undue toxicity without clinical benefit. Time to response (TTR) is the median time for an antineoplastic therapy to yield an objective response, that may have utility in assisting patients and clinicians with ACP, but is not universally reported in the literature.

Objectives
To determine the frequency of reporting of TTR in published literature in metastatic cancer of the lung, breast and colon

Methods
A systematic review was performed using PubMed to identify articles identified by the terms “metastatic breast cancer”,”metastatic lung cancer” and “metastatic colorectal cancer” and limited to phase III trials and analyzed for inclusion of TTR as reported data in each article.

Results
240 of 672 abstracts met entry criteria and underwent full review. Only 4.6% reported TTR as a consistent finding in all 3 tumor types.

Conclusions
A paucity of phase III studies of treatment of advanced cancer reported TTR, limiting the utility of these publications in ACP in patients with incurable cancer.

eP215
A STUDY OF PALLIATIVE CARE MODEL IN THAILAND
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Introduction
Thailand was among the level 3a countries in WPCA report in 2011, which are limited hospice and variety model of palliative care services. This findings expected to understand the existing situation which leading to develop an effective palliative care in Thailand.

Objectives
To explore palliative care model in Thailand.

Methods
A mix-method design.

Results
Palliative care services, referral system, and continuity of care between home and organization were available in 1st-3rd level of health services. Almost setting have interdisciplinary palliative care consultation service except some 1st hospital which run by nurse. All 3rd hospital provided specialists for pain and symptoms control only one hospital and religious organization provided inpatient unit which fully used a complementary therapies. Only two 3rd hospitals established the guidelines for ACP and advanced directives. They also provided special skills training for the personnel periodically. All level of health services provided religious and spiritual support and also home care service. There were village health volunteers to assist patients and their families in 1st and 2nd hospitals. Almost of all hospitals in this study were not have palliative ward, only one 3rd hospital and religious organization provide a private section for patients and families. Most of hospitals had assess patients and families by using the formal assessment form to assess physical, psychological, social, and spiritual. Most patients and families described that they received an excellent care from the team.

Conclusions
Most of palliative care services in Thailand are practical in each setting but need to systematize in referral system and opioid availability.

eP217
THE ACCURACY OF CLINICIANS' PREDICTIONS OF SURVIVAL IN ADVANCED CANCER: A REVIEW
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Introduction
The process of formulating an accurate survival prediction is often difficult but important, as it influences the decisions of clinicians, patients, and their families. Untimely or inaccurate predictions may hinder optimal management. Advanced cancer is typically characterized by an accelerated decline in health over the final weeks of life. Due to the predictability of this decline, prognostication of advanced cancer patients may be easier relative to patients with early stage disease.

Objectives
The current article aims to review the accuracy of clinicians’ predictions of survival (CPS) in advanced cancer patients.

Methods
A literature search in Cochrane Central, Embase, and Medline was conducted. Studies were included if the subjects consisted of advanced cancer patients, and estimated and observed survival data indicative of clinicians’ predictive ability was reported. Studies reporting on the predictive value of biological and molecular markers were excluded.

Results
A total of 1,481 articles were identified in the literature search, of which 15 studies met the eligibility criteria. Clinicians in five studies underestimated patients’ survival (estimated-to-observed survival ratio between 0.5 and 0.92). In contrast, 12 studies reported clinicians’ overestimation of survival (ratio between 1.06 and 6).

Conclusions
CPS in advanced cancer patients are often inaccurate and underestimated. Given these findings, clinicians should be aware of their tendency to be overoptimistic with survival predictions. Further investigation of predictive patient and clinician characteristics is warranted to improve clinicians’ ability to predict survival.
**eP218**

**PREDICTIVE MODELS FOR SURVIVAL IN ADVANCED CANCER: A SYSTEMATIC REVIEW**

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**Introduction**

The ability to accurately predict survival in advanced cancer patients is important for patients, their families, clinicians, and researchers. However, there remains substantial uncertainty surrounding survival prediction, and efforts to identify important prognostic factors that may reduce this uncertainty are underway.

**Objectives**

The objective of this systematic review is to identify and appraise evidence-based prognostic models that predict the survival of advanced cancer patients, and to ascertain variables that may affect the predictive ability of these models.

**Methods**

A literature search of Cochrane Central, Embase, and Medline was conducted to identify relevant articles. Studies were included if: a) models were designed for metastatic cancer patients; and b) a primary or secondary outcome was to design or validate a prognostic or survival model consisting of three or more prognostic factors. Studies solely focusing on biological and molecular markers and those not explicitly reporting a concordance index (c-index) were excluded.

**Results**

The literature search returned 1,671 articles, of which 29 studies were deemed eligible. Performance status, metastasis-related factors, and several laboratory variables were identified as common prognostic factors included in survival prediction models. The median c-index was 0.656 (range: 0.58-0.83).

**Conclusions**

A combination of clinical and laboratory variables are often used in predictive models of survival in advanced cancer patients. Further investigation into the utility of treatment-related factors as prognostic predictors is suggested to improve accuracy in the ability of prognostic models to predict survival.

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**eP219**

**LACK OF CONCORDANCE BETWEEN PATIENTS AND THEIR NON-PROFESSIONAL CARERS ON PERFORMANCE STATUS**

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**Introduction**

Prognostication is a fundamental aspect of the management of cancer patients, and often involves an assessment of the patient’s performance status (PS). Previous studies suggest a degree of inconsistency in ratings of PS between patient and healthcare professionals, but there is little data about the consistency/inconsistency in ratings of PS between patients and their carers.

**Objectives**

To compare ratings of PS between patients and their carers.

**Methods**

120 patients with advanced cancer and their co-habiting carers were concurrently/independently asked to rate the patient’s PS using the Eastern Cooperative Oncology Group (ECOG) performance scale.

**Results**

56% carers agreed with the patient’s assessment of PS, 28% carers deemed that the patient had a worse PS, and 16% carers deemed that the patient had a better PS. In 44 cases the disparity amounted to a one point difference, whilst in 9 cases the disparity amounted to a two point difference (i.e. carers reporting worse PS in 7 cases, and carers reporting a better PS in 2 cases).

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**Conclusions**

Patients and carers often disagree about PS, and more objective assessments of PS may be more appropriate/prognostic (than these subjective assessments).

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**eP220**

**SYMPTOM CLUSTERS AND PAIN IN ADVANCED LUNG CANCER**

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**Introduction**

Advanced cancer is associated with median of 13 symptoms per patient. Symptoms are usually chronic, moderate to severe, influenced by age, gender. Certain symptoms anorexia, dyspnea, are prognostic. Symptoms occur in clusters, non-random associations.

**Objectives**

We report symptom clusters, pain in advanced lung cancer from 1,000 patient dataset, 235 had lung cancer

**Methods**

235 lung cancer patients completed a 38-symptom checklist at initial consultation. A cluster analysis was performed on 25 symptoms with >15% prevalence. An agglomerative hierarchical method was used, linkage was selected, using the absolute value of the correlation between symptoms measuring similarity. A correlation > 0.70 defined clusters. Pain was none, mild, moderate, severe.
Results:

Seven symptom clusters were found. 1) Anorexia Cachexia (anorexia, early satiety) (R=0.94); 2) Upper GI (bloating and belching) (R=0.91); 3) Aerodigestive (hooressness and dysphagia) (R=0.89); 4) Debility cluster (easy fatigue, lack of energy, weakness, xerostomia) (R=0.83); 5) Pulmonary (cough and dyspnea) (R=0.80); 6) Dizziness/Dyspepsia cluster (R=0.77); 7) Neuropsychiatric (depression, anxiety, insomnia) (R=0.73). Nausea, vomiting (nausea, vomiting, taste changes) were below correlation cutoff (R=0.69). Pain did not cluster with anxiety, depression, fatigue, nor depression. Pain was associated with constipation (R=0.66). A close association but not cluster occurred between anorexia, weight loss (R=0.62), bloating, belching, dizziness, dyspepsia (0.62). Pain was severe in 82 (35%), moderate in 65 (28%), mild in 36 (15%). Seven clusters were identified in patients referred to palliative medicine.

Conclusions:

Seven symptom clusters occur in lung cancer. 2/3 of individuals with lung cancer will have moderate to severe pain.

eP221

RAPID ACCESS PALLIATIVE RADIATION THERAPY PROGRAMS: A LITERATURE REVIEW

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Introduction:

One of the most common indications for radiation therapy (RT) is the palliation of symptoms caused by advanced and metastatic cancers. The demand for palliative RT is increasing worldwide. Dedicated rapid access palliative RT programs have the ability to deliver care in a more efficient manner than standard RT programs.

Objectives:

Summarize the literature on rapid access palliative RT programs.

Methods:

Narrative review.

Results:

Programs from North America, Europe, Australia and Asia have published their operational data. Programs vary in their frequency, staffing and clinical focus. Some programs specialize in one palliative RT indication such as bone metastases while others have broad patient eligibility criteria. Some programs focus solely on delivering RT while others provide multidisciplinary physician- and/or ancillary service-led care. Virtually all programs describe improvements in wait times related to consultations, RT planning and RT delivery, with most programs offering all of these on the same calendar day. RT prescriptions administered for common palliative indications within rapid access programs are more in line with recommendations from evidence-based clinical practice guidelines than are prescriptions from standard RT programs. Surveys of program staff and referring physicians show high levels of satisfaction with the care and communication provided by these programs. Considerable achievements in education, training and research have grown from rapid access programs.

Conclusions:

Rapid access palliative RT programs deliver care in a more efficient and evidence-based manner than standard RT programs. These programs offer advantages to patients and their families, health care providers and payers.

eP222

SYMPTOM RELIEF IN DYING CANCER PATIENTS – HOW GOOD ARE WE?

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Introduction:

End of Life care for hospitalized cancer patients is important. Several studies report poor end of life treatment. Several integrated care pathways has been developed in order to ensure best care for the dying person.

Objectives:

The aim was to evaluate a Danish modified edition of the Liverpool Care Pathway (mLCP) as a tool to provide relief of bothersome symptoms in imminently dying hospitalized cancer patients. Primary endpoints were relief of symptoms, and correlation between symptoms and use of medication.

Methods:

Audit of mLCP records from 45 cancer patients who died in the integrated Palliative Care Unit, Oncology Department, Roskilde University Hospital, Denmark in 2014.

Results:

77 % of the dying patients experienced good and immediately symptom relief, whereas 14 % presented partly refractory but manageable symptoms. Most common symptoms were pain (56 %) and anxiety (42 %). Time on the mLCP was in average 48 hours. No correlation between presented symptoms and time spent on mLCP (p=0.52), nor was there a correlation between presented symptoms during the first four hours and during the last four hours before death (p=0.48). There was a significant relief of pain using syringe drivers, and a significant correlation between the use of analgesics and symptom relief.

Conclusions:

Integrated care pathways for best care for the dying person could be a valuable tool for providing good symptom relief. Further studies are needed to define good symptom relief in dying cancer patients.

eP223

UNDERSTANDING PERSPECTIVES ON SPIRITUAL CARE: COMPARING AND CONTRASTING PATIENT AND HEALTH CARE PRACTITIONER VIEWS

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Introduction
Providing spiritual care has been identified as important, especially for those who are living with advanced disease. The nature of the current health care environment has created challenges for practitioners to identify spiritual distress and offer interventions.

Objectives
This project was undertaken to deepen our understanding about spiritual care and the realities of identifying spiritual distress in a busy clinical environment. We sought to identify a simple screening question for spiritual distress that would be useful to frontline practitioners.

Methods
Patients with advanced disease (N=16) and practitioners (N=21) were interviewed. Verbatim transcripts were analyzed separately for each group and themes identified. Subsequently, the perspectives from each group were compared, and common perspectives were identified.

Results
Common views included spirituality as unique to individuals; spiritual distress as isolation, loneliness, and disconnection; spiritual care as listening, being with, and engendering connectedness; and identifying spiritual distress as needing a conversation. Contrast views were seen in the difficulty health care practitioners had describing spirituality, giving examples of spiritual distress and spiritual care, and seeing roles for themselves in providing spiritual care. Patients, on the other hand, easily described these concepts and offered eloquent examples of their experiences related to spirituality and receiving spiritual care.

Conclusions
Health care practitioners struggled to describe spirituality and identify roles for themselves in providing spiritual care. Patients considered spiritual care as important to their living with advanced disease and expected it would be provided by practitioners.

eP225
PARENT’S PERSPECTIVES ON THE END OF LIFE CARE OF THEIR CANCER CHILD – INDIAN PERSPECTIVE
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2Sri Ramachandra Medical College and Research Institute-, Department of Clinical Psychology-, chennai, India

Introduction
Parents report that end of life decisions are the most difficult treatment related decisions that they face during their child’s cancer experience. Research into the parent’s perspective of the quality of end of life care of their cancer children in developing countries is scarce.

Objectives
To identify the symptoms (medical/social/emotional) that most concerned parents during the last days of their child’s life

Methods
20 Parents who lost their child to cancer, treated in our institution were interviewed with a validated prepared questionnaire.

Results
50 % of them were able to understand the concept of palliation vs curative option while 50 % could not understand at all. 80% of them were able to come in terms with palliative mode of treatment while 20 % could not.
Only 40% of them opted for alternative medicine and 70% of them accepted that it worsened the symptoms. 60% of them wanted their child to be at the hospital during the period of death and 40% opted home to be the place of death. When questioned about what made them to opt for aggressive therapy towards the end of life, 60% reported that they hoped for a miracle, while 30% wanted to do everything possible to reduce the suffering. Pains, fatigue, loss of appetite, were the common symptoms that this child suffered but 70% of these symptoms were not controlled effectively.

Conclusions
In developing countries, palliation and end of life care is not given importance and steps should be taken to improve this.

eP226
SYMPTOM BURDEN AND DISTRESS IN PATIENTS WITH CANCER IN AFRICA
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Introduction
Cancer has become a significant public health problem in Africa but still most diagnoses are made late. Sitas et al (2006). The need for palliative care is significant due to the late contact with health care providers and the many symptoms they present with. No study has been undertaken to assess symptomatology for these patients in Africa.

Objectives
To study the symptoms burden in cancer patients in an African setting.

Methods
Symptom studies from records of cancer patients referred to the Palliative Care Services at the Aga Khan University Hospital, Nairobi in 6 months. Symptoms charted on Edmonton Symptom Assessment Scale

Results
42 patients were referred to the service in this period. All the patients reported >3 symptoms which cut across the physical, social, psychological and spiritual concerns. The most common symptoms were pain in the physical dimension (90%) as reported by the patient. Fatigue was reported by (93%). Family well being was the main worry in the social dimension (90%) as reported by the patient.

Conclusions
Many symptoms were untreated for many months. Patients reported >3 symptoms which cut across the physical, social, psychological and spiritual dimensions. The palliative care patients in this study had a high symptom burden. The study highlights the need for palliative care to be included as a service in hospitals in Africa.

eP227
INTRANASAL VINEGAR AS THE EFFECTIVE TREATMENT FOR PERSISTENT HICCUPS IN A PATIENT WITH ADVANCED CANCER PATIENT

Introduction
Hiccups are the pearl of wisdom among elderly people in advanced cancer. Numerous drugs and non-pharmacologic therapies are often ineffective. The use of vinegar for hiccups is the pearl of wisdom among elderly people in Japan. The physiological mechanism is hypothesized to relate to stimulation of the dorsal wall at the nasopharynx.

Objectives
The purpose of this case report was to describe successful treatment of persistent hiccups with intranasal vinegar in patients with cancer in palliative settings.

Methods
A 66-year-old man with advanced gastric cancer and peritoneal metastasis was referred to the Palliative Care Unit at the National Cancer Center Hospital East in Japan. The patient had persistent hiccups with no improvement after treatment with a number of commonly used pharmacological therapies (haloperidol, metoclopramide, and chlorpromazine) and acupressure. We administered intranasal vinegar (0.1 ml) to treat the hiccups.

Results
The small volume of vinegar improved the persistent hiccups. Seven hours later, the patient had a recurrence of hiccups. We administered intranasal vinegar again, and the hiccups subsided immediately. No adverse events occurred.

Conclusions
We suggest that intranasal vinegar administration may be an effective, safe, and quick method to cease persistent hiccups, and improve QOL in patients with advanced cancer. Future studies are needed.

eP228
ESTABLISHING A BINARY CUT-OFF POINT FOR THE PHYSICAL SCORES OF EDMONTON SYMPTOM ASSESSMENT SYSTEM-REVISED JAPANESE VERSION
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3National Cancer Center Hospital East, Psychooncology, Kashiwa, Japan

Introduction
In order to achieve maximum comfort and quality of life (QOL) for patients with cancer, symptom management is critical. Persistent hiccups are defined as hiccups that last for more than 48 hours and worsen the QOL of a patient with advanced cancer. Numerous drugs and non-pharmacologic therapies are often ineffective. The use of vinegar for hiccups is the pearl of wisdom among elderly people in Japan. The physiological mechanism is hypothesized to relate to stimulation of the dorsal wall at the nasopharynx.

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Conclusions
We suggest that intranasal vinegar administration may be an effective, safe, and quick method to cease persistent hiccups, and improve QOL in patients with advanced cancer. Future studies are needed.
purposes. Previous studies have identified the cut-off points for mild, moderate, and severe categories of symptom severity. However, binary data regarding the presence or absence of physical symptoms is more suitable for clinical utility.

**Objectives**
The primary aim of this study was to identify a single cut-off point to distinguish the presence from the absence of physical symptoms assessed using the ESAS-r Japanese Version (ESAS-r-J).

**Methods**
We retrospectively investigated the medical records of 362 patients with advanced cancer between September 2014 and May 2015, and corrected the physical symptoms data evaluated using the ESAS-r-J and the binary question such as presence or absence of symptoms. Receiver operating characteristic curves were generated to identify the best fit between the sensitivity and specificity for the physical ESAS-r-J and binary data.

**Results**
Data from 157 patients (response rate, 43.4%) were analyzed. The best cut-off point to differentiate the presence of nausea from its absence was 2. Fatigue, dyspnea, pain, and drowsiness all had an optimum cut-off point of 4. For loss of appetite, the best fit was a cut-off point of 5.

**Conclusions**
Our data identified the cut-off points for physical symptoms using the ESAS-r and binary data. Except nausea, a physical symptom score of ≥4 suggests a possibility of the presence of symptoms.

**eP229**

**EFFECTIVENESS OF TELECONSULTATION SERVICE FOR TERMINAL CANCER PATIENTS**

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**Introduction**
Terminal cancer patient is often difficult to care due to a variety of symptoms and problems at home. Teleconsultation is a patient-centered service and it facilitates better communication with the medical team due to its usefulness in time and methodology, compared to personal visit.

**Objectives**
The purpose of this study was to conduct the teleconsultation in the terminal cancer patients and identify the effectiveness of the services.

**Methods**
Interview protocols have been created for 20 kinds of symptoms experienced by many cancer patients. Depending on the symptoms complaining during the consultation, the nurse asked questions according to the pre-prepared interview protocol for the symptoms to consult, then reported to the specialists in palliative care and informed the patient about subsequent measures. On the following day, the patient satisfaction and any improvement of symptoms were confirmed.

**Results**
A total of 117 patients had registered to the teleconsultation service from August 1, 2014 until Aug 20, 2015. The total number of consultation cases was 134 cases. Out of total 134 cases, 96 cases was about the symptoms and 40 cases were other consultation. The most common symptoms were pain as a total of 29 cases(30.2%). A substantial number of patients(59 cases, 61.5%) had undergone treatments at the hospital after the consultations associated with symptoms. In the survey for satisfaction level on consultation, it presented very satisfied(61 cases, 45.5%) and satisfied(62 cases, 46.3%) in a total of 123 cases(91.8%).

**Conclusions**
The improvement of symptoms and patient satisfaction were confirmed after using the teleconsultation service.

**eP230**

**A BITTER MOUTHFUL TO SWALLOW? DIFFERENCES BETWEEN OPTIMAL AND ACTUAL SPEECH-LANGUAGE PATHOLOGY CARE OF PALLIATIVE PATIENTS WITH CANCER**

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2 University of Sydney, Speech Pathology, Lidcombe, Australia

**Introduction**
Speech-Language Pathologists (SLPs) routinely work with people receiving palliative care when communication or swallowing is compromised for maintenance of patient comfort and dignity and to minimise patient and family distress. There is currently limited research evidence relating to SLP practice in this area.

**Objectives**
To characterise SLP interventions provided to people with cancer receiving palliative care, identify inconsistencies with best practice and identify influencing factors and opportunities for improvement.

**Methods**
Internet-based survey of SLPs using snowball sampling.

**Results**
162 Australian SLPs responded who provide palliative services to people with cancer. They reported a discrepancy between actual intervention provided and their perceived optimal standard of intervention in most aspects of palliative SLP care. Influencing factors included: consistency of approach to and communication about patients’ wishes and goals of care between hospital admissions, other professionals’ awareness of the SLP role in this area, and a dearth of published evidence to guide SLP practice. Respondents’ strongest recommendations for improvement
included: professional development and peer supervision for clinicians, more extensive research and published evidence to guide practice, increasing other professionals’ awareness of the SLP role and more dedicated Speech Pathology positions for palliative care.

Conclusions
Surveyed Australian SLPs reported a discrepancy between perceived optimum practice and their current work with people receiving palliative care for cancer. They identified that professional development and support, more extensive research, a greater awareness of the SLP role and more dedicated SLP positions in this area could help improve services provided to patients with cancer receiving palliative care.

eP231
SYMPTOM CLUSTERS IN ADVANCED CANCER PATIENTS RECEIVING PALLIATIVE CHEMOTHERAPY
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Introduction
Cancer patients receiving chemotherapy are known to experience symptom as clusters. Studies has been conducted targeting patients receiving adjuvant as well as palliative care. However, little is known about symptom clusters when patients receive chemotherapy with palliative care.

Objectives
To identify symptom clusters among cancer patients receiving palliative chemotherapy. The study also aimed to determine relationships between symptom clusters, functional status, and quality of life.

Methods
A total of 231 patients participated in the study. Patients were recruited from a cancer center in Korea. Patients reported symptom experience of previous palliative chemotherapy using a symptom questionnaire, and completed the EORTC-QLQ 30. Factor analysis and hierarchical cluster analysis were conducted to identify symptom clusters. Generalized linear modeling procedures were applied to evaluate contribution of symptom clusters to functional status and quality of life.

Results
Among the 20 symptoms investigated, fatigue was the most prevalent and severe symptom, followed by taste change, appetite loss, neuropathy, and drowsiness. ‘Fatigue/cognitive’ and ‘Appetite/Nausea/Vomiting’ and were consistently occurring symptom clusters in both analytic technique. Hierarchical cluster analysis identified clinically meaningful 5 symptom clusters. A total of 42.2% of variance in patients’ functional status was explained by symptom clusters with significant contribution of ‘Emotional’, ‘Pain/neuropathy’, and ‘Fatigue/cognitive’ clusters. Symptom clusters only explained 13.3% of variance in quality of life.

Conclusions
Fatigue was the most prevalent symptom which clustered with cognitive symptoms. Among the identified 5 clusters, ‘Emotional’, ‘Pain/neuropathy’, and ‘Fatigue/cognitive’ clusters during palliative chemotherapy had significant contribution in functional status. Symptom management targeting core symptom clusters would contribute improving patients’ function.

eP232
A META-SUMMARY ON THE NEEDS OR CHALLENGE OF TERMINAL CANCER PATIENTS’ FAMILY CAREGIVERS
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Introduction
In Taiwan cancer leading cause of death , ranked the top for 33 years . Escalated the incidence of cancer yearly, although new treatment strategies have also been progress, the current treatment of cancer still has its limits. Palliative care as an integral part of cancer prevention and treatment is already known and also become the world trend of advanced countries . The family caregiver plays the important role of terminal cancer care both in hospital and at home . Most of terminal cancer patients’ family caregivers are required psychosocial needs more than patients . Current researches on family caregivers are focus on care burden mostly but psychological or spirituality domain are rarely exploration

Objectives
To understand family caregivers needed

Methods
Conduct a meta-summary included all quantitative or qualitative researches published between 1998 and 2014 through electronic libraries : Airiti Library for family caregiver , terminal cancer patient , palliative home care and spirituality . Total of 16 literatures included and put on meta-summary.

Results
The findings from 16 literatures indicated that the family caregiver how satisfaction of palliative home care , care burden , the impact factors of terminal cancer patients who lives at home , family caregivers quality of life , and few spiritual distress , inadequate information and social support are mentioned as well .

Conclusions
Our review indicates that the most of studies are focus on family caregivers’ burden , and required adequate information of progressive cancer disease, appointment for return to hospital and resources in community , but few approach on psychological or spirituality domain . Further researches are needed to understand the family caregivers’ psychological or spiritual issue as well as conduct program for improving their unmet needs.

eP233
KEY BARRIERS AND FACILITATORS TO QUALITY END-OF-LIFE CARE FOR TERMINALLY-ILL PATIENTS IN THE PHILIPPINES

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Introduction
According to the 2015 Quality of Death Index, palliative care provision was found to be one of the worst in the Philippines. Income levels are strong indicators of the availability and quality of palliative care. Inability to provide basic pain management is due to limitations in physician education and training, in staff, and basic infrastructure. A local survey showed that factors associated with good death among Filipino patients and families were primarily spiritual and psychosocial.

Objectives
To determine the key barriers and facilitators to quality end-of-life care for terminally-ill patients in the Philippines.

Methods
A survey using a structured questionnaire was conducted among family physicians and palliative care specialists taking care of the terminally-ill, mostly in Metro Manila and in other provinces.

Results
Perceived key barrier to quality end-of-life care involve paucity of physician referrals arising from lack of knowledge about palliative care principles and services. Lack of access to palliative care may negatively impact quality of death in terms of pain and symptom control and end-of-life communications. Perceived key facilitators to quality end-of-life care are strong family support systems and patients’ spirituality.

Conclusions
In the Philippines, care for the dying is undertaken by family members who provide emotional and psychological support to the patient. The Filipinos’ deep faith in divine providence provides them comfort in death and dying. Social and religious safety nets are provided by the strong family and faith systems and this should be taken into account when determining the criteria for the Quality of Death Index in the Asia-Pacific region.

eP234

EVALUATION OF PHYSICAL SYMPTOMS USING THE EDMONTON SYMPTOM ASSESSMENT SYSTEM-REVISED JAPANESE VERSION AND BINARY DATA

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2Tohoku University Graduate School of Medicine, Palliative Nursing, Sendai, Japan
3National Cancer Center Hospital East, Psychooncology, Kashiwa, Japan

Introduction
The Edmonton Symptom Assessment System-Revised (ESAS-r) is one of the most commonly used symptom assessment tools. In the real world, binary data regarding the presence or absence of physical symptoms is more suitable for clinical utility. However, the relationship for symptom measurement between binary data and ESAS-r has not been identified.

Objectives
The purpose of this study was to clarify the prevalence of physical symptoms assessed using ESAS-r and binary data.

Methods
We retrospectively investigated the medical records of 362 terminal cancer patients in the palliative care unit between September 2014 and May 2015, and corrected the physical symptom data evaluated by using the ESAS-r Japanese version and the binary data questions involving the presence or absence of symptoms. The descriptive statistics and frequency distributions were calculated.

Results
Data from 157 patients (response rate, 43.4%) were analyzed. The mean age of the participants was 66.5 years, and 63.7% were male. Malignancy was most prevalent in the lung (n=35), stomach (n=21), and colon (n=20). According to the ESAS-r-J, dyspnea (51.0%), lack of appetite (50.3%), nausea (46.5%), tiredness (42.8%), pain (42.7%), and drowsiness (22.3%) were severe. According to the binary question for severity according to the ESAS-r-J, tiredness (72%), pain (70.1%), lack of appetite (68.4%), and dyspnea (53.6%), drowsiness (37.1%), and nausea (31.5%) were severe.

Conclusions
We identified the prevalence of physical symptoms assessed using ESAS-r-J and binary data for severity according to ESAS-r-J. Further studies on the sensitivity and specificity of physical ESAS-r-J and binary data are needed.

eP235

FAMILY CONFERENCE AT INITIAL DIAGNOSIS OF INCURABLE CANCER IN ST. VINCENT’S HOSPITAL

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Introduction
Family Conference (FC) is conducted to share information and discuss plan between patients, family members (FMs), and physicians. In family centered society like Korea, it is difficult to disclose the diagnosis of incurable cancer directly to cancer patients and discuss treatment plans.

Objectives
The aim of this study is to analyze the records of FC

Methods
From June 2012 to May 2013, medical chart of 210 FCs was retrospectively reviewed.

Results
The FCs were conducted within 3 (0-29) days after first admission. The median number of participants of FMs and patients (age <60) and patients with better performance (ECOG 0-2), and with recurrent disease after curative treatment were more frequently participated (P <0.001 for age, P <0.001 for ECOG, and P = 0.059 for recurrent vs. initially metastatic). The education, occupation, religion,
marital status, and primary cancer site were not associated. In FCs, current status including diagnosis, stage, complication, and treatment plans were discussed. However, prognosis, especially expected survivals, were less told when patient were present (55.4% vs 72.5%, P = 0.030). Most patients (87.6%) showed good compliance after FCs, and only 13.2% received futile treatment (ICU care or CPR) at the end of their lives.

**Conclusions**

Most patients with incurable cancer were participated in FCs. Age and performance status were related to patient’s participation. After FCs, patients showed good compliances and less futile treatments were done.

**eP236**

**END-OF-LIFE CARE IN AFRICA: A DIFFERENT METHODOLOGY BASED ON FAMILY-CENTRED APPROACH TO SUPPORTING PATIENT’S CARE WITHIN PALLIATIVE CARE IN RWANDA**

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**Introduction**

Palliative care is rarely accessible in resource-limited settings like Rwanda. Patients with advanced chronic or terminal illnesses are usually discharged from the healthcare system and return home with no follow-up care. A different methodology based on family-centred helped to start end-of-life (EOL) conversation with patients without conflict the traditional context.

**Objectives**

- To demonstrate the feasible integration of End-of-life issues in Low and Middle incomes countries public health system to manage the huge number of Cancer patients and their families.
- To describe the knowledge, attitudes, challenges, traditional opportunities and practice about end-of-life conversation in Rwanda, and how the model of care based on family-centred should improve the quality of life of patients.

**Methods**

We initiated end-of-life conversation in family meeting after admitted cancer patients in Palliative Care services in the Hospice.

**Results**

85% of Cancer patients agreed to start end-of-life conversation introduced by family member and Anecdotal data indicates a high level of satisfaction by patients and family members with this methodology compare to patient autonomy decision.

**Conclusions**

The methodology based on family-centred approach in end-of-life conversation among cancer patients gave an opportunity to involve the family members, community and reduced stress of patients without conflict his/her tradition. In Most of African countries, the Conversation in end-of-life issue is still regarded as taboo especially in Rwanda after the genocide in 1994. The concept of Palliative care should explored all the traditional perspectives given by the society but it would also help to create a culture where palliative care is viewed as a necessary part of all healthcare systems.

**eP237**

**IMPACT OF THE CONCEPT OF PALLIATIVE CARE AMONG CANCER PATIENTS IN LOW AND MIDDLE INCOMES COUNTRIES: RWANDA PUBLIC HEALTH EXPERIENCES AS A POST GENOCIDE SOCIETY**

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**Introduction**

21 years after the genocide against Tutsi, Rwanda has made remarkable steps towards recovery by rebuilding health sector. Multi-disciplinary palliative care for patients with cancer is rarely integrated into the public healthcare system at all levels in Africa. The concept of Palliative Care brought a part of humanity lost during the genocide by introducing dignity among cancer patients and their families.

**Objectives**

- To demonstrate the feasible integration of Palliative Care approach in Low and Middle incomes countries public health system to manage the huge number of Cancer patients and their families.
- To assure the sustainability of palliative care services, they should be fully integrated into the public health system and should not depend on ongoing foreign financial support.

**Methods**

We initiated a Multidisciplinary team training in Palliative Care among health providers and volunteers in the Hospital as focal point for information and orientation among cancer patients and their families.

**Results**

521 Health providers and community health workers have been trained, 76% of Cancer patients agreed to be discharged from hospital to home and Anecdotal data indicates a high level of satisfaction by patients and family members with palliative care assisted at community level and a reduced stress of continuum care.

**Conclusions**

Palliative care is not optional. It is not an extra, an ‘add-on’, a luxury or an after-thought. It is an essential component of humane cancer care. To develop cancer treatments without parallel development of palliative care is a cruel injustice to the millions of cancer patients around the world who suffer needlessly.

**eP238**

**‘URINARY SYMPTOMS AND CATHETERISATION AS PART OF BLADDER CARE IN PALLIATIVE CARE INPATIENTS’ – A PROSPECTIVE DUAL SITE COHORT STUDY**

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Methods

Stage of the disease.

We wondered about ethical tensions encountered by the oncologists during the decision process to meet the patients' demand to have access to a palliative chemotherapy at a late stage of the disease.

Results

We conducted a multicenter, qualitative study of senior oncologists in university hospitals and cancer centers in France, by carrying out interviews with eleven oncologists.

The study are consistent with the literature showing that factors are in favor of treatment continuation: the patient's age, his desire to continue treatment and his life expectancy. The decision making process of chemotherapy discontinuation is marked by uncertainties, personal representations of the doctor and subjectivity in front of the objective facts that could make this decision difficult. The working conditions in cancer care and the valuation of the chemotherapy prescription can impact the decision. The constant medical progress in oncology make more complex the decision of stopping specific treatments. This study showed the singularity of the doctor-patient relationship in oncology. This can explain the difficulty to stop chemotherapy.

Conclusions

The oncologist can use the collegiality which are necessary for decision to limit specific treatment. The objective is to propose the adequate care to the patient in all its dimensions. Some actions can be proposed to improve our practice: early use of palliative care for patients, analysis of practices and training to deal with uncertainty and the limits of possibilities in clinical practice.

eP239

DECISION OF PALLIATIVE CHEMOTHERAPY IN CANCER LATE STAGE: THE DOCTOR PATIENT RELATIONSHIP AND THE DECISION MAKING PROCESS AS SEEN BY ONCOLOGIST

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Introduction

In palliative care patients, bladder symptoms are distressing and urinary catheterisation is often undertaken to relieve symptoms.

Objectives

The primary aim was to determine the clinical indications and incidence of urinary catheterisation. The secondary aims were to determine causal factors like the type of malignancy, medications, local causes and duration of admission.

Methods

Inpatients (n=104) from two palliative care units were recruited with written informed consents.

Results

The incidence of catheterisation was 41% and urinary retention (63%) was the most common cause. The common local risk factors identified were benign prostatic enlargement 17 % and pelvic/lumbosacral metastasis 14%. While benzodiazepines, (p < 0.01) and antipsychotics, (p = 0.01) were significantly associated with the need for urinary catheterisation, a high anticholinergic load (p=0.28) and opioid use (p = 0.31) was not significant. Similarly, RUG-ADL > 11, AKPS of 10 to 20, and Waterlow score > 19 had significant (p < 0.01) associations. Those with a stable phase were less likely to require catheterisation (p < 0.01). Patients with hospitalisation (>3 weeks) required catheterisation (p = 0.017). Only 4% (n = 2) had their urinary catheter removed and minimal complications (5%) were observed.

Conclusions

Routine screening of urinary symptoms is warranted. Risk factors include the use of antipsychotics and benzodiazepines, and a high level of vigilance in patients on these medications is recommended. Unless there is an indication of acute urinary retention where a urinary catheter is needed, behavioural measures, nursing care, incontinence diapers and medication review need to be undertaken to manage urinary problems.

eP240

CANCER PATIENTS' EXPERIENCES OF SYMPTOMS AT THE END OF LIFE FROM POINT-OF-CARE CLINICAL ASSESSMENT DATA: A RETROSPECTIVE ANALYSIS

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Introduction

Understanding the symptom experiences of people with cancer who are imminently dying is an important concern for oncology and palliative care clinicians.

Objectives

To describe the point prevalence and distress to patients caused by physical symptoms from a large cancer population at the time they had entered the terminal phase.

Methods

Point of care clinical assessment data from participating Australia-wide specialist palliative care services has been routinely collected by the Palliative Care Outcomes Collaboration since 2006. Data from a national consecutive cohort July 2013 to June 2015 were analysed.

Results

This study includes 19,558 patients with cancer, in a terminal phase which ended in death. The most common cancers were lung (21.3%) and colorectal (11.8%). The most commonly reported symptoms causing moderate/severe
distress were fatigue (28.5%), pain (22.6%) and breathing problems (19.9%). Patients with cancers of the gastrointestinal tract had higher odds ratio of experiencing moderate/severe distress from nausea, appetite problems and difficulty sleeping; whilst patients with lung cancer had a higher odds ratio of experiencing distress from breathing problems (OR 2.12, 95% CI 1.91-2.35). Patients in community settings had higher odds ratios of reporting moderate/severe distress rating across all symptoms except distress from bowel problems, compared to patients in inpatient settings.

Conclusions
These data inform clinicians of potential symptom burden with specific diagnoses. Furthermore, the symptom outcomes for patients dying at home requires further investigation.

eP241
PROACTIVE PALLIATIVE CARE IN THE INTENSIVE CARE UNIT
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Introduction
Literature shows that collaborative clinician practice, like that of our proactive palliative care program in the ICU, can address practice variations as well as decrease symptom burden, enhance end of life care, and provide psychosocial/family support.

Objectives
To increase timely referral to a PC consultant, addressing goals of care earlier during the patient’s stay in the ICU; decreasing the length of stay, as well as, increasing the quality of life for the complex ICU patient.

Methods
A 6 month feasibility study within a large community hospital utilizing validated triggers to stimulate weekly referral and consultation to palliative care (PC) was introduced. The triggers included: 1) pre ICU Hospital Admission > 10 days, 2) > 80 years of age with 2+ comorbidities, 3) stage IV malignancy, 4) post cardiac arrest > 5 days and GCS < 5, and 5) intracranial haemorrhage with mechanical ventilation.

Results
During the first two months, 32 new consults occurred, an average of 4 new consults/week. Thirteen percent of the ICU patients were triggered for palliative referral. The average patient age was 63 years, 66% male and median LOS was 9.5 days. Fifty-six percent of the palliative care patients required longitudinal post ICU follow up to the wards. Psychosocial support & symptom management were the primary reasons for palliative care consult.

Conclusions
Proactive PC triggers have identified an increased number of patients who require PC consultation in our ICU setting. We believe that the adoption of a Proactive Palliative Care model is feasible in a Critical care environment.

eP242
NEW STRATEGY AND CHALLENGE IN TREATMENT OF TERMINAL STAGE PANCREATIC AND LUNG CANCER: HERBAL EXTRACTED MEDICINES IN SUPPORTIVE CARE
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Introduction
There is no standard and effective methods for the terminal stage cancer patients.

Objectives
Palliative care seems as rationally anti-cancer way that have low systemic toxicity and acceptable effectiveness, especially herbal extracted medicines.

Methods
Thirteen unresectable pancreatic cancer patients with distant metastases (TNM stage IV), and twelve lung cancer patients with brain metastasis (TNM IV stage) who experienced treatment failure were studied. Herbal extract combinations including Ginseng, Herba Agrimonia, Hairyvein and Arginine etc, which approved by the China Food and Drug Administration were initiated. Survival time, and quality of life were evaluated after treatment.

Results
In both pancreatic and lung cancer groups, the average Eastern Cooperative Oncology Group score decreased from 3 to 2, and appetite and sleep improved. For pancreatic cancer group, the median survival time and the average survival time were 5.1 months and was 6.5 months, respectively. The longest survival time was 16.7 months and was still alive. The 3-month, 6-month, and 10-month survival rates were 92.3%, 46.2%, and 30.8%, respectively. For lung cancer group, the average survival time and median survival time were 14.58 months and 8 months, respectively; the longest survival time was 54 months. The 3-, 6-, and 12-month survival time rates were 83.3%, 75.0%, and 41.7%, respectively.

Conclusions
This palliative care has significant acceptable effectiveness which can improve quality of life and prolong survival time in terminal stage patients. It may be a new strategy and challenge for the treatment of patients with advanced cancer in palliative care and maintenance treatment.

eP243
SANN- JOONG-KUEY -JIAN -TANG INHIBIT HUMAN Gastric CANCER AGS CELLS THROUGH DECREASING BCL-2, BCL-XL, MCL-1, TCTP BUT INCREASING BAX, CASPASE-9 AND CASPASE-3 PROTEIN EXPRESSION
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**Introduction**

The predicted number of deaths from stomach cancer in the EU in the year 2013 is 56213 (34 767 men and 21 446 women), the standardized death rates per 100 000 population for 2013 is 6.59. SANN-JOONG-KUEY-JIAN-TANG (SJKJT), a traditional Chinese medicine prescription, has been used to treat patient with solid cancer, which can inhibit many human cancer cell lines, such as colon cancer (colo 205 cells), pancreatic cancer (BxPC3 cells) and Hepatic cellular cancer (Hep-G2) through different molecular mechanisms. But the efficacy and molecular mechanisms of SJKJT in human gastric cancer in not clear.

**Objectives**

In the present study, the efficacy and molecular mechanisms of SJKJT in human gastric cancer AGS cells were evaluated in vitro.

**Methods**

The cytotoxicity of SJKJT in AGS cells were evaluated by MTT assay. The effects of SJKJT on the protein expressions of Bcl-2, Bcl-xl, Mcl-1, TCTP, Bax, Caspase-12,-9,-3, CHOP and β-actin in the AGS cells were examined by western blot analysis.

**Results**

The results showed that SJKJT can induce the proliferation inhibition with time and dose dependent. It was noted that SJKJT treatment significantly inhibited protein expression levels of Bcl-2, Bcl-xl, Mcl-1 and TCTP, but increased Bax, Caspase-9 and Caspase-3. In addition, it was demonstrated that SJKJT treatment significantly increases the protein expressions of the Caspase-12 and CHOP.

**Conclusions**

These results suggest that SJKJT could inhibit AGS cells through intrinsic pathway and ER stress. The use of traditional Chinese medicine prescription SJKJT may become a feasible therapy option for gastric cancer.

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**eP244**

**CANCER PATIENTS’ NEED FOR PALLIATIVE CARE ESTIMATED ON HOSPITAL ADMISSIONS IN THE LAST YEAR OF LIFE**

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**Introduction**

When starting palliative care services in the region we need to know what is the need for this kind of care.

**Objectives**

The aim of the study was to investigate the scope and place of inpatient medical care provision for cancer patients in the last year of life to determine the need for PMC based on the actual use of inpatient health services in the region.

**Methods**

We analyzed the medical histories of cancer patients who were admitted to hospitals of all levels due to the deterioration of their illness and in need for palliative care in the last year of life.

**Results**

Patients who died from cancer in the last year of life received inpatient care at different levels (69.5 admissions per 100 patients per year). The admissions were made mainly to the municipal medical organizations (79.77±3.0% of all hospital admissions) and 20.23±3.0% to the regional specialized cancer hospital.

**Conclusions**

220 beds were used for providing palliative care to cancer patients in the last year of life can be considered as the minimal need for PMC beds. The number of PMC beds used by cancer patients in the last year of life was 80.12% of the total number of beds for PMC provision calculated according to the standard recommended by the State Program on Health Development in the Russian Federation until 2020. This emphasizes the importance of developing and using the criteria for identifying patients with chronic progressive non-cancer diseases who really need specialist PMC.

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**eP245**

**PALLIATIVE SEDATION (PS) FOR EXISTENTIAL DISTRESS (ED): A CONTROVERSY**

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**Introduction**

The history of PS has reflected many areas of controversy. Presently most concerns pertaining to PS have been settled for most clinicians. An area that remains a hot topic is the administration of PS for individuals with profound ED at the end-of-life.

**Objectives**

To present both sides of the debate utilizing the most recent information and opinions from the medical literature.

**Methods**

The major medical databases were searched for articles related to the topic. Data and opinions were extracted.

**Results**

Starting from the basic requirements of appropriate PS the controversy can be explored. The literature outlines the best practice of PS through multiple international guideline statements. The similarities and differences in these guidelines is notable regarding PS for ED and may be surprising to many. Differences between the prevailing opinions in different countries is of interest. Whether PS it's self shortens life expectancy is a question that needs to be factored into the debate. Multiple ethical positions are explored. Literature proposing a definition of ED and a careful plan of approach including a trial period of respite sedation is seminal. An overall summing up of thoughts and opinions both pro and con is presented.

**Conclusions**

The consideration of PS for ED is an area of clinical ambiguity and a grey area of medical practice. More research is needed but until then consideration of the views, opinions and practices of practitioners from around the world is helpful.
**eP246**

AN INTEGRATIVE REVIEW ON THE ATTITUDES TOWARDS ADVANCE DIRECTIVES AND END-OF-LIFE DECISIONS OF THE WELL COMMUNITY, PATIENTS SUFFERING FROM LIFE-LIMITING ILLNESSES AND THEIR CAREGIVERS

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**Introduction**

Advance directive (AD) is a written document that aids the communication about end-of-life care among the patients, caregivers and health care professionals. However, AD is not widely adopted in the society.

**Objectives**

An integrative review of current literature was done to investigate the public and patients’ attitudes towards advance directives.

**Methods**

Literatures relevant to the aforementioned topic were searched using databases including Ovid MEDLINE, PsycINFO, and EMBASE. Inclusion criteria included: related to ADs and life-limiting diseases. Exclusion criteria included: published more than 10 years ago as it is too outdated to fit into the current society’s context; not written in English; and no full text available for access.

**Results**

2847 results were yielded. After screening through the titles and abstracts, only 6 studies met the criteria and were included into this literature review. The foci of the 6 selected literatures were related to the attitudes of the general public in various countries, implementation and execution rate, as well as investigating the underlying reasons for the observed trends regarding ADs. It was found out that low compliance to AD and a lack of understanding on the purpose of AD still existed in recent studies. Lack of representativeness, unstated validity, reliability or quality of the measurement tools, and insufficient sample size are the main problems identified in reviewed articles.

**Conclusions**

Health care professionals need to put more effort into promoting the understanding of AD so as to enhance the quality of end-of-life care.

**eP247**

MODEL OF PSYCHOSOCIAL & SUPPORTIVE CARE IN ONCOLOGY FOR AUSTRALIAN ADOLESCENT & YOUNG ADULT CANCER PATIENTS

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**Introduction**

The Youth Cancer Services (YCS) provide age-appropriate treatment and support for young cancer patients through specialised, multi-disciplinary teams of oncologists, nurses, psychologists, social workers and other allied health staff. This model of care has five lead hospitals collaborating with over 20 other hospitals to provide Australian-wide coverage for 15 – 25 year old patients.

**Objectives**

The National Service Delivery Framework for Adolescents and Young Adults (AYA) with Cancer (NSDF) was developed in 2008 to articulate a strategic vision and optimal model of care to maximise survival and quality of life outcomes for young oncology patients. Focussing on the psychosocial and practical support component of the NSDF, this presentation will outline how it translates to the services delivered by the YCS in South Australia/ Northern Territory (SA/NT).

**Methods**

Guided by the principles of the NSDF, using case studies and drawing on quarterly activity data, this comprehensive model of care uses national age-appropriate tools for initial psychosocial assessments and care planning of young cancer patients by YCS SA/NT.

**Results**

Multi-disciplinary services are delivered through the YCS SA/NT, including nursing, psychology, music therapy and exercise physiology, to meet patients psychosocial and supportive care needs.

**Conclusions**

Clear benefits are evident for a youth specific model of psychosocial and practical care for adolescents and young adults with cancer. An updated strategic Framework is in development and will provide an important blueprint in guiding future care for these young people, including the consideration of survivorship issues and linking in with community-based services.

**eP248**

HELPING DYING PATIENTS WITH CANCER FIND PEACE: A QUALITATIVE STUDY EXAMINING THE ROLE OF THE DOCTOR

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**Introduction**

Being at peace is an important contributing factor in the quality of life of dying cancer patients but its features, and the role of the doctor in facilitating peace, are unclear.

**Objectives**

We sought to understand the features of a peaceful patient, and patients’ preferences regarding the role of the doctor in facilitating a sense of peace.

**Methods**

A qualitative grounded theory approach was used with semi-structured interviews conducted in a variety of settings. Fifteen cancer patients with advanced disease were asked about the things that gave their life meaning and a sense of
peace and how the doctor could support their spiritual wellbeing. Patients were also questioned about their concerns for their future.

Results
Patients were observed to be along a spectrum between having peace and not having peace. Features of the two extreme positions are described. Patients with advanced cancer would like honest and clear information about what to expect in the dying process. Doctors could facilitate peace by developing a good relationship with cancer patients and by supplying clear and honest information in a timely manner about what patients could expect as they approached their death.

Conclusions
Doctors should aim to develop a good relationship with cancer patients, which allows them to express their fears, and to communicate clearly with patients about what they can expect as they progress towards death. This promotes spiritual wellbeing and allows patients time to prepare for death. However, acceptance of death does not always lead to the patient experiencing peace.

eP249
DISTRESS THERMOMETER/TOOL IN PATIENTS WITH TESTICULAR CANCER: IS IT VALUABLE?
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Introduction
Several studies indicate that 22% to 58% of cancer patients have significant levels of distress. Prior studies have shown that patients are not likely to initiate physician conversations about distress and physicians often wait for patients to express concerns about distress.

Objectives
To determine the usefulness of the distress thermometer/tool in testicular cancer (TC) patients.

Methods
TC diagnosis. Distress tool consisted of the thermometer with distress rankings of 0-10 and 6 domains: practical, family, emotional, spiritual/religious, communication and physical concerns. These distress tools were given at regular follow-up visits. Patients with distress level >3 were asked if they would like a referral to the local social worker or chaplain.

Results
Age range 19-57 years (avg. 36.3 years) Currently N=50 Distress Tools have been reviewed. 8 (16%) declined to complete the form. 30 out of 42 (71%) recorded distress level > 3.

Conclusions
Distress tools may be beneficial in most cancer patient populations, but may be ineffective and cumbersome in the testicular cancer population. Further evaluation is required to determine if the distress tool is helpful in this patient population, if it addresses real concerns, and what is the appropriate time frame for administering these distress tools.

eP250
INVESTIGATION OF THE CORRELATION BETWEEN PATIENTS’ DISTRESS AND SYMPTOM BURDEN AT AN ACADEMIC CANCER CENTER
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Introduction
Cancer patients experience distress while coping with their diagnosis and treatment and about a third of patients will require intervention to treat distress. The distress thermometer (DT) is a common instrument to screen for distress in cancer patients and has been used as a tool to allow lay navigators (LN) to provide valuable input for the interdisciplinary management of patients. Review of systems (ROS) is a standard clinical assessment tool that can also be used by non-physician clinical staff to identify symptoms that may be experienced by patients in their follow up.

Objectives
We evaluated the correlation of DT and ROS score to investigate a possible correlation with DT scores.

Methods
100 total medicare patients were enrolled in the study from a pool of patients at our cancer center to ROS assessments (converted to ROS score) to investigate a possible correlation with DT scores.

Results
The analysis showed no correlation of DT score to ROS score in either the high volume or low volume practitioner’s patients.

Conclusions
We conclude that the DT score and ROS score are not surrogates for the assessment of distress in patients and the reasons for this discrepancy needs further investigation.

eP251
A SURVEY OF SOCIAL SUPPORT FUNCTIONAL AND PSYCHOSOCIAL ADAPTATION IN PATIENTS WITH BREAST CANCER
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Introduction
To determine the source of social support is important which psychosocial changes that lead to breast cancer and used by the patient to adapt to this change.
Objectives
The aim of the study was to investigate social support and psychosocial adjustment in patients with breast cancer.

Methods
The research was carried out on 131 patients diagnosed with breast cancer. The forms containing patients’ demographic information were prepared by the researcher and Multidimensional Scale of Perceived Social Support (MSPSS) and Psychosocial Adjustment of Illness Scale-Self Report Scale (PAIS-SR) were used as the data tools. Data were collected during personal interviews with patients, and were evaluated on computer using SPSS 13.0 packet program. Mean, percentage, koldmogorov-smirnov test, spearmen correlation were used in the statistical analysis.

Results
The mean age of patients was 52.0±10.9 (min-max: 28-78), 43.5% of which were primary school graduates. The mean score of MSPSS was 60.9±8.2 and the mean score of PAIS-SR scale was 42.7±11.7. It was found out that level of psychosocial adjustment of 26.7% of the patients was “good”, level of psychosocial adjustment of 49.6% of them was “fair” and level of psychosocial adjustment of 23.7% of them was “poor”. It is found that there is a negative and significant correlations between MSPSS and PAIS-SR (r=-0.352, p=0.000).

Conclusions
Close to half of the breast cancers patients’ psychosocial adjustment was found intermediate level and perceived of social support was found tobe high. This situation suggests that the level of perceived social support alone is not a sufficient variables affect the psychosocial adjustment.

eP253
THE PSYCHOSOCIAL STRESS OF PATIENTS WITH BLADDER CANCER ACCORDING TO GENDER-SPECIFIC ASPECTS IN INPATIENT CARE
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Introduction
25,000 people/year are diagnosed for an urothelial bladder cancer (BC). Despite improved diagnostics and therapy, BC is characterized by its aggressiveness with a high recurrence and progression rate. The side effects of therapy and the poor prognosis in advanced stage, a psycho-oncology co-supervision is essential. Studies on the psychosocial care needs of patients with BC are rare.

Objectives
This study investigated the stress situation of patients with BC by means of screening questionnaires according to gender and invasiveness of surgical therapy.

Methods
Analysis of patients (n=237; m=189, f=48) who underwent a surgical treatment (n=220) or chemotherapy (n=17) during the period from 06/2014 to 06/2015. Evaluated by using standardized questionnaires to stress screening and identification of need for care (Distress Thermometer and Hornheider FB) and utilization of psychosocial support.

Results
Results: 28% of the patients showed a need of psychosocial support. The average stress level was 4.6, regardless of the surgical procedure and sex. 50% of female cystectomy patients communicated a support request, none of the male. All cystectomy patients were integrated into a psychosocial support program. Main stressors were pain (33%), diarrhea (32%), fear (29%) and sleep (28%).

Conclusions
There is an evident number of BC patients with elevated psychological stress and a consecutive need of psychosocial support.
care. Female BC patients and patients with advanced disease show significantly higher distress levels and higher care needs and are therefore frequently integrated into psychosocial care programs. Patients with muscle-invasive BC are more often supervised by a psycho-oncological therapist.

eP254

PSYCHOLOGICAL STRESS IN GERIATRIC PATIENTS WITH UROLOGICAL TUMORS IN ACUTE TREATMENT

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Introduction

Two-thirds of all cancer cases involve patients who are older than 65 years, yet diagnosis, treatment and care of cancer in this age group are poorly studied. To achieve a good holistic care of patients with cancer which integrates somatic and psychosocial care, it is necessary to identify the actual need for support. The psychological stress of urological cancer patients resulting from cancer diagnosis correlates with treatment side effects such as loss of body integrity, sexual or bladder function. Regarding the specific psycho-oncological problems in elderly patients, data are sparse.

Objectives

The aim of the present study was to investigate the stress situation of elderly patients with urological tumors using standardized screening questionnaires and the use of such screening questionnaires in the inpatient psychosocial treatment program.

Methods

Patients ≥ 65 years with urological tumors (n = 162) were examined. This group of patients was evaluated using standardized questionnaires for stress screening and the identification of need for care and assessing the actual utilization of inpatient psychosocial support.

Results

The average stress level was 4.4 points. 28% of the patients had care needs. The majority of these also communicated. 48% being in psychosocial care.

Conclusions

There is a significant number of elderly urological cancer patients with increased psychological stress and a consecutive need of psychosocial care. An interdisciplinary collaboration is essential to treat elderly cancer patients well. The integration of the measurement of psychological distress as an evaluation of the treatment of older patients is a step forward for patients with potentially life-threatening urological diseases.

eP255

THE EXPERIENCE OF PATIENTS WITH HEMATOLOGICAL MALIGNANCY IN COMMUNICATING WITH HEALTHCARE PROFESSIONALS: A QUALITATIVE STUDY BASED ON THE INTERVIEWS TO THE BEREAVED FAMILY

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Introduction

Communication between patients and healthcare professionals (HCPs) takes crucial role. However, few studies on patients with hematological malignancy (HM) described their communication with HCPs.

Objectives

To explore the experience of patients with HM in communicating with HCPs since diagnosis until the end-of-life through the viewpoint of bereaved family. This report mainly focuses on the HCPs’ approaches in communication.

Methods

A qualitative, semi-structured interviews were conducted with bereaved family. Interview data were analyzed using grounded theory to develop categories and their relationship.

Results

Altogether 14 families were interviewed. From the standpoint of the bereaved family, the patient owning one’s illness process was essential for him/her to live to the fullest possible. Two HCPs’ approaches are observed when the patient owns one’s illness process: acknowledging the patient’s way of life and letting the patient catch up with disease. Acknowledging the patient’s way of life becomes possible by approaching from the HCPs and taking seriously the patient’s hope and will. Letting the patient catch up with disease consists of giving prospect and offering choices. HCPs should acknowledge the patient’s way of life first and then let the patient catch up with disease, in order for the patient to own one’s illness process and live to the fullest possible. Just providing information is not enough for patient to live to the fullest possible.

Conclusions

In hematology setting where treatment proceeds very quickly, HCPs should take conscious approaches along with providing information in order to let the patient live to the fullest possible.

eP256

IMPLEMENTATION OF DISTRESS SCREENING INTO ROUTINE PRACTICE BY ONCOLOGY NURSES

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Introduction

Distress screening is advocated as standard practice in many guidelines. There is uncertainty regarding feasibility and acceptability of its implementation in routine practice.

Objectives
To develop tailored pathways to integrate systematic distress screening in an oncology department and to evaluate feasibility and acceptability, referral practice and distress.

Methods
The Distress Thermometer (DT) and its Problem List (PL) of the National Cancer Coalition Network (NCCN) was selected to implement distress screening in consecutive outpatients with newly diagnosed breast-, colon- and prostate-cancer. Pathways and roles of nurses as coordinators were outlined. A patient questionnaire and staff interviews were used for evaluation of satisfaction, acceptability and feasibility.

Results
102 patients were asked to participate, 85 (83%) returned the DT and 80 (94%) returned the satisfaction-questionnaire. The majority of patients were females (87%), mean age 61 years (sd 13, 32-95). Mean distress score was 4 (range 0-9); fatigue and anxiety were occurred most frequently (60% and 54%). Few patients wished referral to psycho-oncology or social services (3%), some (5%) already had psychological support in place before screening. Satisfaction with the procedure was rated high/very high by 97% of patients and 87% said that they could easily communicate their problems. Nurses judged their screening role feasible and satisfying.

Conclusions
Implementation of nurse-coordinated distress screening appears to be an acceptable and feasible way to integrate systematic, psychosocial oncology care. However, referral rates to other services remain low. Screening provides a platform for communication about distress between patient and primary care team.

eP257

TARGETING SUPPORT SERVICE INFORMATION FOR RURAL MEN AFFECTED BY CANCER: DOES MAKING INFORMATION ON PSYCHOSOCIAL SERVICES RURAL- AND GENDER-SPECIFIC IMPROVE THEIR PERCEIVED ACCESSIBILITY?
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Introduction
Low rates of psychosocial service use by rural men affected by cancer are well-documented. Developing targeted information on psychosocial services may help address their barriers to service use. However, to date, targeted theory-based informational resources for rural men affected by cancer have not been developed or tested.

Objectives
To develop targeted rural- and targeted rural male-psychosocial service information brochures and to compare their effectiveness to generic materials, in increasing perceived informational relevance, attitudes to help-seeking and intention to use services.

Methods
Targeted versions of an existing Cancer Council SA brochure were developed based on a literature review. 90 rural, male cancer patients/survivors/carers were recruited via Cancer Council SA’s accommodation facilities. The pre- post randomised control trial design involved viewing a brochure, completing baseline and immediate post-test measures (Time 1), and a second (Time 2) questionnaire approximately one day later.

Results
Complete case analysis at the bivariate and multivariate level indicated no detectable group differences on attitudinal or behavioural measures. Content analysis revealed service information was primarily sourced from other people (e.g. friends, family, medical professionals).

Conclusions
Unfortunately, existing service use was unusually high in the sample, reflecting the recruitment methods, and therefore increasing awareness of services may have been particularly challenging. There was no evidence that targeting based on rurality or gender improved attitudes to help-seeking. Further qualitative research to build understanding about the acceptability of various targeting techniques in this population would be useful, as would replicating this study in a sample unassociated with a Cancer Council SA service.

eP258

PSYCHOLOGICAL SUPPORT FOR FEMALE CANCER PATIENTS WITH YOUNG CHILDREN NEAR THE END OF LIFE
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Introduction
Mothers with advanced cancer who have young children (MACC) often try to maintain their roles as mother even near the end of life. As a result, they suffer from the conflict between ideal and reality.

Objectives
This study aims to assess inner conflict of MACC during their cancer journey and to discuss better psychological intervention.

Methods
We retrospectively reviewed three families with MACC which had received psychological intervention. We reviewed the interaction between a psychotherapist and a patient, a husband, and children.

Results
Three patients are diagnosed with lung, breast, and ovarian cancer. All women were in her 40s. Their children were
aged from 8 to 16 years. We found several common key phrases in the patients’ talk including “fear of death”, “pains for showing children my declining health”; and “what can I leave for children as mother”. They tried to act as usual without showing weakness or anxiety, because they wanted to leave in children their images of “happy cheerful mother”. It became difficult as the disease progressed. Psychotherapists empathized with their loneliness and sense of loss, and supported sharing their feeling with family members. It was also important to disclose prognosis to family members including children and to support them psychologically in collaboration with physicians, nurses, and child-life-specialists.

Conclusions
It is important to provide MACC a safe place to express their emotional conflicts. Interdisciplinary support is also essential to provide therapeutic “holding environment” for their families. Detailed process of intervention and the outcomes will be discussed in the presentaion.

**eP259**

**PSYCHIATRIC DISORDERS IN PATIENTS WITH PANCREATIC CANCER 9 MONTHS AFTER DIAGNOSIS**

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**Introduction**
Pancreatic cancer is the type of cancer with high incidence of depression

**Objectives**
The aim of the study was to investigate the prevalence of psychiatric disorders in patients hospitalized for pancreatic cancer, 9 months after diagnosis.

**Methods**
73 (59 males, 14 female, age: mean±SD: 60.2±11.4) patients with pancreatic cancer were assessed with SCID-IV, a structural clinical interview that yields diagnoses according to DSM-IV criteria for psychiatric disorders.

**Results**
Out of 73 patients, 45 (61.6%) showed evidence of psychiatric disorders: Dysthymia (n=20) and alcohol dependence (n=8) were the most frequent diagnoses. In addition, 9 patients satisfied the criteria for symptomatic depression.

**Conclusions**
The high comorbidity of psychopathological conditions and especially of depression should be brought to attention of physicians for the management of pancreatic cancer.

**eP260**

**EFFECTS OF ANXIETY AND DEPRESSION ON PATIENTS FOR INFORMATION FOLLOWING A DIAGNOSIS OF COLORECTAL CANCER**

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**Introduction**
The optimal amount of treatment related information patients should receive following a diagnosis of colorectal cancer is still an unsolved dilemma.

**Objectives**
Many variables influence the preference of patients and this study aims to evaluate whether anxiety and depression are two of them.

**Methods**
124 patients in two oncology centers over a 4-month period provided written consent to enter this prospective, ethically approved study. After the initial consultation with the oncologist, they completed an information needs (IN) questionnaire and a Hospital Anxiety and Depression score. The results were independently analyzed statistically using Kruskal-Wallis 1-way ANOVA. The IN categorized patients into those who wanted all available information, only positive information, wished to let doctor decide. The HAD scored anxiety and depression separately into 4 levels of severity.

**Results**
Patients who required all available information had significantly higher levels of anxiety whereas those who preferred to let doctor decide were less anxious (p=0.03). There was no increased level of depression in this group (p=0.3).

**Conclusions**
For the first time a link between anxiety, following a diagnosis of colorectal cancer and the information needs of patients has been established. Those patients who want all the available information are more anxious than others. We have now commenced a prospective randomized trial evaluating whether satisfying patients information needs by intensifying information in a video will reduce these levels of anxiety.

**eP261**

**SPIRITUALITY AND QUALITY OF LIFE IN PATIENTS WITH COLORECTAL CANCER (CC)**

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**Introduction**
Cultural, psychological, spiritual and social factors may influence the quality of life (QOL) of patients suffering from CC.

**Objectives**
The aim of this study was to evaluate spirituality and its relation to depression and the QOL in a sample of patients.

**Methods**
We surveyed 78 adult patients with CC, through 3 questionnaires: a general one, the FACT-T-Sp QOL questionnaire and the Beck depression inventory. From the FACT-T-Sp questionnaire we obtained also the general quality of life (FACT-G) score. We evaluated correlations...
between variables with Chisquare, Fisher and ANOVA tests. We employed multiple regression analysis to evaluate if depression and spirituality would independently correlate with QOL.

Results
78 patients were included. For most patients (66.2%) their religious faith was the most important factor that helped them to cope with their disease. We found no statistical correlations between the scores of the questionnaire FACT-Sp and any of the demographic variables. We observed significant correlations between higher scores of spirituality (ANOVA p<0.001) with absence of depression. Likewise higher scores of QOL (ANOVA p<0.001) correlated with lack of depression. By multiple regression analysis both the spirituality domain of the FACT-Sp and Beck depression inventory score correlated independently and significantly with general QOL measured by the FACT-G questionnaires score (p=0.023 and p=0.003, respectively).

Conclusions
In our study it seems that regarding our patients, religion may influence their quality of life independently from depression. Furthermore, spirituality may also be a protective factor against depression. Therefore, physicians respect and encourage their religious practices.

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PSYCHOSOCIAL EFFECT AND EVALUATION OF THE HRQOL IN PATIENTS WITH MULTIPLE MYELOMA
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Introduction
It is acknowledged that patients diagnosed with multiple myeloma are significantly affected as far as the quality of their life is concerned.

Objectives
The aim of this study was to record the impact of Multiple Myeloma (MM) on the psychological health and HRQOL of patients with MM.

Methods
We studied 23 outpatients suffering from well-controlled, uncomplicated MM who had the ability to sustain a regular job. We tried to record the psychosocial effects resulting of MM and to evaluate their HRQOL, comparing them to 23 healthy controls with similar demographic characteristics. To the patients and controls were given the Short-Form Healthy Survey (SF-36) and questionnaire based on the Hamilton and Markers depression scales.

Results
According to the two depression and anxiety scales used, a mild degree of anxiety and depression was diagnosed but with unimportant statistical difference (p=ns) between patients and healthy controls. Self-perceived HRQOL of patients appeared to be affected, with vitality (p<0.002), physical (p<0.001) and social functioning (p<0.003) as the most impaired subscales of the SF-36. The deterioration in their HRQOL was mainly related to post-diagnosis alteration of their socioeconomic status. As assessed by the multiple regression analyses, none of the disease history and medication-related variables were found to have any influence on the results of the SF-36 subtests.

Conclusions
Despite the fact that we studied a relatively small sample of patients with MM, our results showed that their HRQOL was obviously affected, while their psychological health remained nearly unaffected.
Better communication between doctors and patients with colorectal cancer, as well as their relatives may play a significant role in the process of their treatment.

**Objectives**
The aim of this study was to establish the connection between the communication of doctors with their colorectal cancer patients and their families and the process of cancer disease treatment.

**Methods**
51 patients suffering from advanced colorectal cancer as well as their families completed the questionnaire. The questions included the following: previous place, kind of administered treatment, their knowledge of their state of health and a predicted prognosis.

**Results**
45% of the relatives agreed to inform the patient about diagnosis but not about the predicted prognosis, 39% did not agree to inform about the diagnosis nor the prognosis, while 19% of the families agreed to inform the patient both about the diagnosis and the prognosis. 97% of the patients who were aware of the diagnosis but not of the predicted prognosis followed the doctors’ advice. In the group of the patients whose families did not agree to inform them about the diagnosis or the prognosis – 83% followed the doctors’ advice.

**Conclusions**
The research revealed that the patients were better informed about state of health and showed a connection between a health service institution and the level of patients’ knowledge of health state as well as the predicted prognosis. They were aware of prognosis, which led to a more cooperative attitude and willingness to undergo special treatment.

**eP265**

**PSYCHOLOGICAL CHANGES DURING CHEMOTHERAPY FOR STOMACH CANCER**

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**Introduction**
Psychological changes during chemotherapy for stomach cancer is a topic that is not well reported in the current literature.

**Objectives**
The aim of this study was to access the psychological changes during chemotherapy for stomach cancer and predictors for psychological variables just after chemotherapy.

**Methods**
We investigated 49 patients (18 women and 31 men) who had undergone their first chemotherapy between July 2004 and December 2008. We investigated Profile of Mood States (POMS), Spielberger’s State Trait Anxiety Inventory (STAI), Rosenber’s Self Esteem Scale, and the Lazarus tupe Stress Coping Inventory (SCI) before and just after chemotherapy. We assessed the changes of psychological variables during chemotherapy, and the predictors for psychological variables just after chemotherapy.

**Results**
Anxiety decreased and fatigue increased just after chemotherapy, and psychological states may be predicted by self-esteem before chemotherapy.

**Conclusions**
Anxiety decreased and fatigue increased just after chemotherapy, and psychological states may be predicted by self-esteem before chemotherapy.

**eP266**

**THE NEEDS AMONG GREEK COLORECTAL CANCER PATIENTS DURING AND AFTER TREATMENT**

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**Introduction**
The needs among Greek colorectal cancer patients during and after treatment are not well documented.

**Objectives**
The aim of this study was to generate new knowledge about colorectal cancer patients’ experience of the treatment in the health care sector and about the needs of colorectal cancer patients during and after treatment.

**Methods**
A sample of patients in contact with Greek hospitals for treatment or control for a cancer were send an extensive questionnaire with of number of questions concerning patient satisfaction, rehabilitation and other needs, late effects and physical status. The numbers of participants were 350. The age of responders varied between 20 and 90 years, mean 61 years.

**Results**
The study showed a number of points for improvement in the communication and support of colorectal cancer patient during and after treatment. 30% wanted better support and information at the time of diagnosis, and the most so among educated and younger patients. During treatment, 19% of patients felt no psychological support, and 28% felt some support, while 37% felt good psychological support. Only about 49% of patients felt they were seen as an individual during treatment. Younger patients were most dissatisfied. 32% of patients reported, that the hospital staff had no or poor interest in the relatives’ situation. After treatment, 25% felt they were not well informed about support possibilities outside the hospital.

**Conclusions**
The results from the study have been widely shared with health care professionals in order to improve psycho-social and other support for colorectal cancer patients.

**eP267**

**SLEEP DISTURBANCES AND DEPRESSION IN PATIENTS WITH PANCREATIC CANCER**

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Introduction
Pancreatic cancer has an intense impact on the sleep and psychology of the patients.

Objectives
Aim of this study is to estimate the degree of sleep disturbances as well as the possible contributing factors in patients with pancreatic cancer.

Methods
41 patients concluded in our study, 9 were female and 31 male with mean age of 51 (range 29-74). These patients underwent a clinical psychiatric interview according to the diagnostic criteria of ICD-10. The degree of sleep disturbances during the month prior to patients evaluation was assessed through the Athens Insomnia Scale (AIS) and psychopathology was assessed through the Montgomery Asberg Depression Rating Scale (MADRS).

Results
There was a strong correlation between the score of the AIS and that of the MADRS for 41 patients (r: 0.40, p<0.01). 13 of our patients complained of insomnia. These patients scored higher on the MADRS than the ones without sleep difficulties (z:-3.032, p=0.002).

Conclusions
The results of our study suggest that sleep disturbance (insomnia) in patients with pancreatic cancer is a probable indicator of depression. Furthermore, these data suggest that insomnia in these patients is one of the factors mediating the association between depression and impair in their functioning.

eP268
AN EXPLORATORY ANALYSIS OF FEAR OF RECURRENCE AMONG EARLY – STAGE LUNG CANCER PATIENTS IN TAIWAN
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Introduction
Fear of cancer recurrence (FCR) is identified as a crucial distress for cancer survivors as confronting cancer-related symptoms and information. However, cancer survivors’ fear of recurrence in Taiwan was not well documented yet.

Objectives
The purpose of this study was to examine the Fear of Cancer Recurrence Inventory- Chinese Version (FCRI-CH) for Taiwanese cancer patients.

Methods
The cross-sectional data was collected at the third month after removing the tumor regarding a longitudinal study for early-stage lung cancer patients in Taiwan. The patients completed the instruments including the FCRI-CH, Karnofsky Performance Scale (KPS), EORCT QLQ-30 Lung Cancer Module 13 (LC-13), The Hospital Anxiety and Depression Scale (HADS), Pittsburgh sleep quality index (PSQI), and demographic characteristics.

Results
Among 131 patients, female occupied 58% and having high school degree occupied 80%. Significantly, FCR was positively correlated to the depression, anxiety, and sleeping problems, but negatively correlated to quality of life. One-third of them (N=45) scored the FCRI severity higher than 16. Those patients rated significant higher scores on the FCRI-CH psychological distress, insight, and coping strategies dimensions, anxiety, depression, and, sleeping problems. Factor Analysis suggested that five components in the FCRI-CH and 42 questions were regrouped.

Conclusions
Although the responses from Taiwanese lung cancer survivors only concluded in five dimensions, the themes of five dimensions are still similar to the original. The insight and reassurance were combined, and severity was taken apart into coping strategies. Therefore, the FCRI is an appropriate scale to represent fear of recurrence for cancer survivors in Taiwan.

eP269
MANIC EPISODE AFTER LIFE-THREATENING BRAINSTEM METASTASES
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Introduction
We report the case of a patient who suffered a manic episode after developing life-threatening brainstem metastases.

Objectives
A 51-year-old man was referred for a psychiatric consultation because of hyperactivity. He had been diagnosed with bladder cancer one year earlier and was treated with surgery and chemotherapy. Ten months later, he developed quadriplegia. MRI brain scan revealed brainstem metastases, and radiotherapy was performed. As the patient’s symptoms were alleviated by cranial irradiation, he gradually started talking to himself and the medical staff until he was discharged.

Methods
During psychiatric consultations, he would talk about his situation, such as his family, work, and symptoms, in a loud voice for long periods. Then, he would burst into tears. Even though he recognized that he was talking too much and that it was causing the medical staff great confusion, he could not stop talking.

Results
The patient exhibited a persistent expansive mood for a distinct period that lasted for more than one week, and his symptoms were present for most of the day, every day, during this period. These symptoms fulfilled the DSM-V criteria for Bipolar I Disorder with manic episodes, and so the patient was treated with psychotropic medicine.

Brainstem metastases can be life-threatening. The patient...
experienced a great fear of sudden death, which might have caused his symptoms.

Conclusions
This report adds to the list of psychiatric symptoms seen in the oncological setting in patients who have experienced life-threatening crises. We should consider the psychological impact of various cancer symptoms.

eP270

COMPASSION FATIGUE AMONG NURSES WORKING IN ONCOLOGY CLINICS IN TURKEY S. Kav1, E. Akgun Citak1, A. Karaaslan Eser1
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Introduction
Compassion fatigue is described as “natural consequent behaviours and emotions resulting from knowing about a traumatizing event experienced by a significant other – the stress resulting from helping, or wanting to help, a traumatized or suffering person”. Oncology nurses may experience intense physical and emotional exhaustion, identified in the literature as symptoms of cumulative grief and compassion fatigue. Oncology nurses’ experiences with compassion fatigue are not clearly defined.

Objectives
The aim of this study was to describe the prevalence of compassion fatigue among nurses working in oncology clinics and to explore their views and the impact of compassion fatigue.

Methods
This descriptive study was planned in consequent two phases and conducted on nurses working in oncology clinics. In the first phase; an online survey was created, which consists of demographics and Turkish translation of the 30-item Professional Quality of Life (ProQOL R-IV) scale for measuring compassion fatigue, compassion satisfaction and burnout. In the second phase nurses reporting high level of compassion fatigue will be invited for qualitative interview to explore their experiences and views.

Results
We would like to share preliminary results of 45 respondents of the first phase. We determined nurses’ compassion satisfaction scale means were 45.55 ± 8.91, burnout scale means were 24.88 ± 8.52 and compassion fatigue scale means were 25.73 ± 9.07.

Conclusions
Comparing the current literature; our results showed that nurses’ average scores of compassion satisfaction were better, however their burnout and compassion fatigue scores were poorer. Factors affecting to burnout and compassion fatigue should be evaluated.

eP271

FINDING MY WAY: UPTAKE AND PREDICTORS OF ADHERENCE TO AN ONLINE PSYCHOLOGICAL INTERVENTION FOR CANCER-RELATED DISTRESS
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Introduction
While online psychological interventions hold promise for improving access to psychotherapy for cancer-related distress, a key limitation of online interventions is low adherence. Despite this, few studies have investigated predictors of adherence to online interventions.

Objectives
This study aimed to examine predictors of recruitment and adherence to treatment (iCBT) and attention-control conditions of an RCT of an online psychological intervention (Finding My Way) designed to reduce cancer-related distress in patients undergoing curative cancer treatment.

Methods
Uptake and predictors of adherence were analysed by means of frequency, univariate and multivariate analyses. Multiple adherence indices were assessed, including website activity level, frequency-of-access and session-duration; potential predictors evaluated included baseline demographic, illness, and psychosocial variables.

Results
Of 461 eligible patients, 191 (41%) enrolled, with 94 randomised to treatment and 97 to attention-control. Participants were most commonly of Australian ethnicity (92%), female (84%), partnered (77%), tertiary educated (71%) and employed (63%); mean age was 55.1 years (SD = 10.8). Cancer types included breast (63%), melanoma (9%), bowel (9%) and other cancers. Adherence was moderate-to-high, with 117 participants (61%) accessing four or more of six modules. Group comparisons revealed high adherers were significantly more likely to be in the attention-control condition (V = 249). Multivariate analyses indicated higher adherence was significantly predicted by older age (β = .18, p < .01) and control-group membership (β = -.26, p < .01).

Conclusions
This study identified several predictors of cancer patients’ adherence to an online intervention for cancer-related distress that can be considered in the future design of such interventions. This work was funded by NHMRC Project Grant #1042942.

eP272

DEPRESSIVE SYMPTOMS DURING ADVERSE ECONOMIC AND POLITICAL CIRCUMSTANCES: A
COMPARATIVE STUDY ON GREEK FEMALE BREAST CANCER PATIENTS RECEIVING CHEMOTHERAPY TREATMENT
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Introduction
Several studies have identified disease and social network factors associated with depression during breast cancer chemotherapy treatment. However, there is insufficient evidence regarding the impact of adverse economic and political events.

Objectives
To search for an effect of the adverse economic and political events that took place in Greece (threat of bankruptcy, referendum, capital controls) on depressive symptoms of breast cancer patients on chemotherapy.

Methods
The clinician-rated version of the Inventory of Depressive Symptomatology (IDS-C90) and a form documenting sociodemographic, medical and social network characteristics were administered in two groups of patients: one in 2010 and one in the aftermath of the striking events that took place in Greece in July 2015. The differences between the two groups were compared using the non-parametric tests of the Mann Whitney U.

Results
No differences were found between medical, demographic and social characteristics of the two groups. The 2010 median value of patients treated in 2010 was 28.07 (CI, 25.91-31.60), while that of the 2015’s group was 18.00 (CI, 16.92-20.60), indicating less depressive symptoms for the second group. The non-parametric analysis revealed that the differences between the two groups were statistically significant (P = <0.001), denoting a strong effect size (r=0.53).

Conclusions
Lower depressive symptoms after the July 2015 events could be explained by different personal and social factors, most probably an increase of social support to the most vulnerable. Future research on the effect of striking economic and political events on mental health of a larger cohort of breast cancer patients is warranted.

eP273

CANCER CARE EDUCATIONAL PROGRAM TO HIGH SCHOOL TEACHERS AND SCHOOL STAFF. A NEW MODEL IN COSTA RICA.
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Introduction
In Costa Rica we have observed that High School teachers need more information about clinical and psychosocial management regarding their students coping with cancer.

Objectives
To implement a new strategy in our Country to address this lack of cancer care information, we design at the Mexico Hospital in San Jose, a multidisciplinary educational cancer care program to provide Teachers a better understanding of the malignant disease and how they can deal with students living with cancer along with their classmates and caregivers.

Methods
Since 2014 we started an educational program for High school teachers, principals and other school staff. In order to achieve our objective we congregate once a year teachers from our School network and we split the Meeting in three Parts:
1. Hematologists, Medical Oncologists, Psychosocial Oncologists, and Palliativists teach about cancer management.
2. Testimonies of adolescents with cancer and parents whose children died of cancer are given.
3. A representative of the Ministry of Education explains legal aspects.

To evaluate this intervention we use a survey provided at the end of the Meeting.

Results
The participants of this program can understand better cancer prognosis, different cancer treatment modalities, and the importance of the psychosocial support, also rights and duties of the students having cancer. Transforming themselves in key players in cancer care.

Conclusions
This is a unique model in Costa Rica, to help High School Teachers to cope with students with cancer, classmates and caregivers.

eP274

DON’T NEED HELP, DON’T WANT HELP AND CAN’T GET HELP: WHY PRIMARY BRAIN TUMOUR PATIENTS DON’T UTILISE SUPPORTIVE CARE SERVICES
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Introduction
It remains unclear why many primary brain tumour patients do not use available supports or services despite reporting high levels of unmet supportive care needs and distress.

Objectives
To understand the reasons why adults with primary brain tumours do not use formal supports or services when reporting a need for help.

Methods
Following a quantitative survey of supportive care needs and support/service utilisation (reported elsewhere), semi-structured telephone interviews were conducted with a subsample of 19 adults recently diagnosed with primary brain tumours. Thematic analysis was used to identify recurring ways participants described their use of supportive care services.

Results
To be included.
Analysis identified three themes: that they did not need help, did not want help, and experienced barriers to support utilisation. When indicating that they did not need help, participants typically reported positive experiences relative to their expectations or the experiences of others; difficulties recognising their needs due to cognitive change; ignoring their needs as a coping strategy; or utilising their own or informal resources. When reporting not wanting help, participants mentioned preferences to self-manage problems or accept issues; foci other than supportive care needs; conscious choices not to seek help; and questioning of the value of supports or services available. Barriers to support service utilisation were unawareness of needs, supports available, and their relationship; incapacity due to treatment/treatment; access issues; and unsuccessful help-seeking attempts.

Conclusions
Recognition of patients’ difficulties in recognising their needs and preferences for self-management or informal supports suggest new avenues for meeting their unmet needs.

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DEPRESSION, ANXIETY, AND DISTRESS EXPERIENCED BY ADULT CANCER SURVIVORS: UNDERSTANDING DIFFERENCES IN YOUNG, MIDDLE AGED, AND OLDER SURVIVORS OVER 12 MONTHS

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Introduction
Research documents adolescent and young adult (AYA) cancer patients experience higher rates of psychosocial distress, depression, and anxiety (DDA). However, no research documents long-term trajectory of distress comparing AYAs to older patients.

Objectives
We examined whether i) age categories influenced changes in DDA over 12 months; ii) patients scoring above DDA clinical cut-offs had different response rates; and, iii) practical or psychosocial problems differed by age group when DDA thresholds were exceeded.

Methods
We invited new patients attending Tom Baker Cancer Centre to participate. 1196 enrolled categorized into three groups: AYA (18-39; n=112), Middle (40-64; n=585), and Oldest (65+; n=499). Participants completed questionnaires at 0, 3, 6, and 12 months including Distress Thermometer (distress), Psychological Screen for Cancer (anxiety and depression), and Modified Problem Checklist (practical and psychosocial problems).

Results
Mean ages for the groups (AYA, Middle, Oldest) were 31.7±5.5, 55.4±6.6, and 74.3±6.3 and distress was most common (49.1%, 55.2%, 38.6%), followed by anxiety (37.5%, 37.3%, 19.8%), and depression (25.9%, 21.4%, 15.4%). HLM revealed AYAs reported significantly higher DDA than the Oldest group (p<.05). No group-by-time interactions were noted, but a main-effect for time indicated symptom reduction. We found no differences for participants exceeding symptomatic criteria. Lastly, AYAs symptomatic for DDA experienced significantly more practical problems at baseline compared to the other groups.

Conclusions
AYA patients present with the highest levels of DDA at diagnosis. Despite similar rates of improvement to older patients, AYAs continue to be most symptomatic likely related to greater unmet practical problems. Age appropriate psychosocial support may improve AYA outcomes.

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PSYCHOSOCIAL NEEDS OF WOMEN WITH GYNAECOLOGICAL CANCER: PREVALENCE AND CORRELATES IDENTIFIED BY A NEWLY DEVELOPED GYNAECOLOGICAL CANCER NEEDS QUESTIONNAIRE (GCNQ)

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Introduction
With improving survival rates more women are living with long-term physical and psychosocial consequences of their gynaecological cancer (GC) diagnosis/treatment. Unaddressed, psychosocial needs increase the risk of psychological morbidity and reduce quality-of-life. GC research is hampered by the lack of valid and reliable measures that encompass GC-specific issues relevant to women of all ages.

Objectives
To validate the new Gynaecological Cancer Needs Questionnaire (GCNQ), and examine the prevalence and correlates of unmet psychosocial needs of ‘younger’ versus ‘older’ GC patients/survivors across cancer continuum.
Methods
The 60-item GCNQ comprises four subscales: i) Information; ii) Emotions, Relationships and Sexuality; iii) Physical Wellbeing and Care Coordination; and iv) Fertility. Younger (n=76) and older (n=101) GC patients/survivors completed the GCNQ at either: diagnosis, active treatment, post-treatment, or survivorship. Depression, anxiety, and quality-of-life were also assessed.

Results
Psychometric evaluation supported the validity and reliability of the GCNQ. 65% younger and 48% older women reported at least one moderate-high unmet need. Younger women reported significantly more moderate-high unmet needs than older women, overall and in all except the Information domain (all p's<0.05). Parental and employment status, education level, cancer type, anxiety and depression, and quality-of-life were significantly correlated with reporting at least one unmet need (p<0.01). Age was an explanatory variable for Fertility needs only, endorsed exclusively by younger women.

Conclusions
Many GC patients/survivors report a need for additional help with post-treatment difficulties. The GCNQ can assist clinicians to routinely identify women’s needs, and make appropriate and timely referrals for additional support in this setting.

eP277

PREVALENCE OF MALNUTRITION AND DISTRESS IN CANCER PATIENTS AND THE RELATIONSHIP BETWEEN THEM USING QUESTIONNAIRE
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Introduction
Cancer is associated with negative feelings like anxiety and depression. But few studies have focused on the relationship between them.

Objectives
To investigate the prevalence of malnutrition and distress in cancer patients and examine the relationship between them.

Methods
We conducted a cross-sectional study in West China Hospital, Sichuan province, China. We used questionnaire to investigate the prevalence of malnutrition and distress and examine the relationship between them, which consisted of nutritional status measured by Patient-Generated Subjective Global Assessment (PG-SGA) and Nutritional Risk Screening 2002 (NRS2002) and level of psychological distress measured by Distress Thermometer (DT). We also focused on the factors associated with distress.

Results
The study was comprised of 466 individuals, including 209 women and 257 men (50.6±11.9 years old; ranging from 13 to 81). We found that psychological distress in cancer patients was common, with 184 patients (39.5%) suffered distress (3.7±2.7, 0-10). The mean score of PG-SGA was 3.37 (0-6), and of NRS2002 was 1.91 (0-11). Higher scores of nutrition confirmed by PG-SGA (r=0.148, p<0.001) and NRS2002 (r=0.142, p<0.001) were significantly correlated with higher levels of psychological stress. The factors associated with distress in cancer patients were old age (p<0.01) and pain (p<0.01). Age (p<0.05), gender (p<0.01), pain (p<0.01), and occupation (p<0.05) might affect their nutritional status.

Conclusions
Higher scores of nutrition confirmed by PG-SGA (r=0.148, p<0.001) and NRS2002 (r=0.142, p<0.001) were significantly correlated with higher levels of psychological stress. Further researches are still in demand.

eP278

DISTRESS SCREENING AND ACCEPTANCE OF RADIOTHERAPY USING DISTRESS THERMOMETER IN PATIENTS WITH ADVANCED NASOPHARYNGEAL CARCINOMA (NPC) BEFORE RADIOTHERAPY
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Introduction
Present treatment of nasopharyngeal carcinoma (NPC) patients mainly centers on radiotherapy. However, in china, patients with tumors think that they can only be cured through surgeries. Before radiotherapy, patients with NPC may have mental disorders and this may have an effect on the acceptance of radiotherapy.

Objectives
The objective of this study was to examine the reliability and validity of DT in detecting distress in patients with HNSCC before receiving the first radiotherapy and focused on the acceptance of radiotherapy in NPC patients.

Methods
This study examined distress status and acceptance of radiotherapy in NPC patients before radiotherapy. The patients were also screened for psychosocial distress (using the Distress Thermometer (DT) and Hospital Anxiety and Depression Scale (HADS)).

Results
The DT was tested against the HADS in 131 patients with advanced NPC before they received their radiotherapy to estimate the psychological status. With the cutoff scores ≥4, 47.3% (n=62) patients reported a distress score ≥4. We found a DT cutoff score ≥4 had the best sensitivity (0.67) and specificity (0.82). DT is efficacious for screening for anxiety and depression in advanced NPC patients before radiotherapy. Both anxiety and depression were associated with acceptance of radiotherapy (p<0.001 and p<0.01), respectively.

Conclusions
Anxiety and depression were frequently observed in NPC patients before radiotherapy while the distress statement might influence the acceptance of radiotherapy. Our data suggest that assessing anxiety and depression is important before radiotherapy in NPC patients.
eP279

PARENTAL CANCER AND ITS IMPACT ON FAMILIES AND DEPENDENT CHILDREN: FINDINGS FROM AN INTEGRATIVE LITERATURE REVIEW AND AN OBSERVATIONAL STUDY

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Introduction
Parental cancer has a significant impact on the lives of children, families, and the parent themselves. Significantly, service and knowledge gaps exist in the provision of supportive care for these families.

Objectives
To best support these families, and their dependent children (0-18), it is essential to develop a better understanding of their wellbeing and service needs.

Methods
An integrative literature review of 49 peer-reviewed articles published between 2000 and 2015 was undertaken. The findings were consolidated with observations of supportive care interventions in the US in 2012.

Results
Children were significantly impacted by their parent’s cancer. Sons experienced more internalising and externalising problems, and daughters experienced worsened mental health. Children of all ages were distressed, but a large number of parents underestimated the impact that the cancer had on the child. Communication between parents and children was a significant factor in supporting children. Children’s wellbeing was mediated by family functioning; and their parents’ gender, coping strategies, cancer severity, and mental and physical health. Observations of interventions identified the need for a family support model that is culturally safe, based on healthy child development and coordinated by health professionals. This model would link patients, communities, schools, and health professionals through pathways of care and would be offered free of charge.

Conclusions
Parental cancer may impact children’s long-term wellbeing. Further investigations are needed in this area. Additionally, review of referral patterns, support programs and interventions are warranted in terms of their uptake and impact on families affected by a parent’s cancer.

eP280

THE DEVELOPMENT AND IMPROVEMENT OF PSYCHO-SOCIAL SERVICES IN CANCER CARE IN KAZAKHSTAN: PSYCHOSOCIAL REHABILITATION PROGRAM AND THE QUALITY OF LIFE OF CHILDREN WITH BRAIN TUMORS

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Introduction
Cancer disease leads to a much more serious psychosocial effects than any other disease. This can be explained by the fact that the disease is associated with a powerful multiple stresses arising at all stages of the disease, and leads to a variety of psychosocial and other accompanying neuropsychosocial consequences.

Objectives
The conduction of psychosocial activities, including differentiated combination of the methods of individual, group and sociocentralised therapy aimed at reducing symptoms, including adequate psychological defenses, as well as increase the success of the rehabilitation process and improve the QoL in children with brain tumors.

Methods
Psycho-emotional state of patients will be investigated using: HADS, HDRS, children's projective techniques of psychological research: product analysis activities of the child and the analysis of children's version of the TAT, a children's version of the Lüscher color test. QoL was assessed using a questionnaire PEDSQL 4.0 GENERIC CORE SCALES.

Results
The result is the development of psychomeasuring system which is the most effective treatment strategy with psycho-emotional disorders in children with brain tumors, the translation of the PEDSQL 4.0 GENERIC CORE SCALES in Kazakh language to assess the QoL of children with cancer, also Psychosocial Rehabilitation at the Cancer Centers in all over the country.

eP281

QUALITY-OF-LIFE OUTCOMES IN PATIENTS WITH GYNECOLOGIC CANCER WITH COLOSTOMY AND EFFECTIVENESS OF PSYCHOLOGIST CONSULTATION

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Introduction
If the female genital cancer is associated with colostomy creates dilemma.

Objectives
We explored the impact of an integrative oncology therapeutic regimen on quality-of-life (QOL) outcomes in women with gynecological cancer wit colostomy.

Methods
Patients and methods: Study on 127 examined patients referred by oncology and surgical clinic all of patients consultation with psychologist. QOL and Measure Yourself Concerns and Wellbeing (MYCAW) questionnaire, at baseline and at a 6–12-week follow-up assessment.

Results
Of 127 patients referred to two clinics oncology and surgery, 104 patients were fatigue (81.8 %), gastrointestinal symptoms 82 patients (64.6 %), pain and neuropathy 69 patients (54.5 %), and emotional distress 58 patients (45.5 %).
Patients with consultant (n=68) and non-consultant (n=28) groups shared similar demographic, treatment, and cancer-related characteristics. Fatigue scores improved by a mean when consultant with psychologist done. The MYCAW scores improved significantly (p<0.0001) for all the leading concerns as well as for well-being, a finding which was not apparent in the non-consultant group.

Conclusions
If conditions provide patient comfort and consultant with psychologist the gynecological cancer during chemotherapy may reduce cancer-related fatigue and improve other QOL outcomes.

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FIRST COUNSELLING OF CHILDHOOD CANCER DIAGNOSIS: THE INDIAN PERSPECTIVE
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Introduction
“...sympathy and understanding may outweigh the surgeon’s knife or the chemist’s drug”
- Hippocratic Oath

Breaking badnews is the most uncomfortable yet inevitable duty of paediatric oncologists. In a multiethnic society like India’s, cross-cultural communication pose difficulties in conveying bad news. Though there are standard recommendations, the quality of a communication is solely determined by the listener.

Objectives
To know the preference of the listener in breaking bad news.

Methods
The families of 50 children who were recently diagnosed with cancer at Sri Ramachandra Medical University, Chennai, were interviewed with a validated questionnaire.

Results
All of them preferred a dedicated counselling room and a repeat counselling. 93% of families wanted a numerical value for the prognosis and 83% wanted to compare the status of their child with a similar child. 69% did not want their child’s school administration to know about their child’s condition. 66% wanted their primary physician to be informed. 82% wanted to know about treatment facilities available at other centres. A large number (94%) were able to recollect the words of support and confidence given at the time of counselling. Majority of the families did not want to reveal the diagnosis to their children.

Conclusions
First counselling influences the family’s decision on further planning, either pursuing treatment or abandonment. Patients and their families have a right to compassionate counselling and the responsibility falls on the primary oncologist to balance the physiological basis and treatment of the disease with the psychosocial side of medicine while counselling the family on childhood cancer diagnosis.

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IMPACT OF BRAIN-DERIVED NEUROTROPHIC FACTOR (BDNF) RS6265 POLYMORPHISM ON CIRCULATING BDNF LEVELS AMONG PATIENTS AT RISK OF CHEMOTHERAPY-ASSOCIATED COGNITIVE IMPAIRMENT (CACI)
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Introduction
Previous literature suggested that carriers of the BDNF Met homozygous BDNF genotype are protected from CACI.

Objectives
To describe the changes of BDNF levels in relation to BDNF rs6265 polymorphisms among patients at risk for CACI.

Methods
This was a multicenter, prospective cohort study, involving chemotherapy-receiving early-stage breast cancer (ESBC) patients. Patients were assessed longitudinally using the validated FACT-Cog (ver. 3) across three time points: Prior to chemotherapy (T1), at midpoint (T2), end of chemotherapy (T3). Blood samples were drawn at each time point, and plasma BDNF levels were quantified using ELISA. Genotyping was performed using Sanger Sequencing.

Results
A total of 51 chemotherapy-receiving ESBC patients (mean age: 52.6 ± 9.5 years; 78.4% Chinese) were recruited, with 11 patients (21.6%) reported cognitive impairment post-chemotherapy. Overall, there was a reduction of median plasma BDNF levels over time (T1: 5423.0 pg/ml; T2: 5131.6 pg/ml; T3: 4050.3 pg/ml; p < 0.01). Carriers of Val/Val (p=0.011) and Val/Met (p=0.003) BDNF genotypes demonstrated significant reduction of BDNF levels over time; however, BDNF levels were similar across all time points among Met/Met carriers (p=0.107).

Conclusions
This preliminary evidence suggests that BDNF levels reduce over time across chemotherapy, except those patients who...
are genetically protected from CACI. Further studies are required to validate these findings, and to evaluate the association between plasma BDNF levels and CACI with robust sample size.

cP284

PSYCHIATRIC COMORBIDITIES ARE ASSOCIATED WITH INCREASED COST OF CARE IN CANCER PATIENTS

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Introduction
Impact of patient reported psychological distress on cancer care cost (Han X, et al. Cancer. 2015; 121(4):614-22) has been reported. However the impact of psychiatric comorbidities remains largely unknown.

Objectives
Asses if psychiatric comorbidities in cancer patients are associated with increased treatment cost.

Methods
Demographics, cancer related information, billing diagnoses and treatment cost were obtained on unique patients seen at Mayo Clinic Florida (MCF) for cancer care between 2009 and 2014. We used 442 psychiatric ICD9 codes to determine psychiatric comorbidity. Those who had been diagnosed with a psychiatric condition 12 months prior to primary cancer diagnosis or within 6-months post cancer diagnosis were classified as Cancer Plus (CaP), while the remainder were classified as Cancer only (CaO). Treatment costs incurred at MCF were compared between groups. Acute cost was defined as all costs incurred within 6 months post primary cancer diagnosis and follow-up cost as all cost incurred during 6 to 24-months post cancer diagnosis. Monthly average cost using the number of months with billed services was used to adjust for potential lost to follow-up and censoring.

Results
There were 11,225 unique cancer patients. 54% were males, 46% were females and 27.3% were ethnic minority patients. Age groups were: 18-34 (2.0%), 35-49 (7.9%), 50-64 (27.8%), 65-79 (34.8%), and ≥80 years (10.0%). 18.6% (2085) were classified as CaP and 81.4% (9140) as CaO. The monthly average cost per patient in CaP group was 25.7% higher than those in CaO group.

Conclusions
Psychiatric comorbidities are associated with significantly increased cancer treatment cost.

cP285

INTRODUCTION OF THE DELTA PROGRAM FOR PREOPERATIVE HEAD AND NECK AND ESOPHAGEAL CANCER PATIENTS

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Introduction
It is difficult for patients who have head and neck cancer (HNc) or esophageal cancer (Ec) to treat post operative delirium. We tried to use the DELTA program (DELTA) for the screening of the patients with risk factors of postoperative delirium.

Objectives
We clarified the effect of introduction of DELTA as screening tool for patients who had risk factors of postoperative delirium.

Methods
Surgical patients who were diagnosed as HNc and Ec were eligible for this retrospective study. We prepared two groups, before using DELTA (BEFORE) and after using DELTA (AFTER), to clarify the differences in the incidence of postoperative delirium.

Results
In group BEFORE, 14 out of 263 patients (5.3%) were diagnosed with postoperative delirium. Among 14 people, nine patients (64.3%) had HNc, five patients (35.7%) had Ec and it was one patient 11% who used benzodiazepine-based sleeping drug. In group AFTER, 135 out of 243 patients (55.6%) patients were judged that they had high possibility to be post operative delirium. In fact, there were 7 patients who were diagnosed post operative delirium and all of them had already forecasted as high-risk post operative delirium patients. Among 7 people, 6 patients (85.7%) had HNc, one patient (14.3%) had Ec and it was one patient (14.3%) who used benzodiazepine-based sleeping drug.

Conclusions
More than half of the patients who were diagnosed HNc and Ec had high possibility of postoperative delirium. By started using DELTA, we could reduce the onset of postoperative delirium.

eP286

PSYCHOSOCIAL WELLBEING AND HEALTH SEEKING BEHAVIOUR AMONG WOMEN WITH BREAST CANCER

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Introduction
The diagnoses of breast cancer evoke various emotional reactions that include stigma. While mental well-being using common pointers like anxiety and depression has been well explored in breast cancer arena; the same cannot be said about stigma despite its grave consequences on treatment and outcome.

Objectives
This study was set out to profile psycho-social well-being using indicators like stigma, anxiety, depression and social support among women with breast cancer, and evaluate their interplay with cancer treatment seeking.

Methods
A total of seventy-eight women with newly diagnosed women with breast cancer in a Nigerian tertiary hospital were interviewed with designed questionnaire consisting of multiple parts that include socio-demographic/clinical profile, adapted encounter form, stigma scale, multidimensional perceived social support scale and hospital anxiety and depression rating scale.

Results
The mean age of the participants was 46.3(±8.1) years with about one-third presenting with advanced staged cancer. A little above two thirds had sought alternative or trado-spiritual care before presenting for orthodox cancer care. The mean score on the stigma scale was 18.4(±4.3). Stigma score was positively correlated with anxiety-depression and negatively correlated with perceived social support (p<0.001) with notable variability profiled between enacted and internalized stigma scores. Participants with primal alternative or trado-spiritual care had significantly higher mean scores for internalized, enacted stigma and anxiety-depression in comparison to those without (p<0.001).

Conclusions
Findings from our work suggest that stigma constitute a determinant factor for treatment seeking behavior and psycho-social well-being among women with breast cancers. Anti-stigma strategy looks potentially beneficial in cancer care and further research is indicated.

eP287
REAL ACUPUNCTURE BUT NOT SHAM IMPROVED CIRCADIAN RHYTHM DISRUPTION (CRD) IN BREAST CANCER SURVIVORS (BCS) IN A RANDOMIZED CLINICAL TRIAL (RCT)
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Introduction
CRD and sleep disruption are prevalent among BCS. CRD can be measured using circadian power. Greater circadian power represents better health. Emerging evidence suggests that CRD and sleep disruption in BCS contribute to reduced QoL and may shorten overall survival. Acupuncture is a popular complementary modality among cancer survivors.

Objectives
The aim of the study was to evaluate the impact of acupuncture on sleep and CRD in an RCT.

Methods
68 BCS (54±9 years) endorsing insomnia were randomized to undergo 12 (2×/6 weeks) sessions of either acupuncture (n=34) or sham (n=34; using a retractable, Streitberger needle). Sleep disruption was measured with the ISI and PSQI. Participants wore an actigraphy ambulatory device (Actiwatch 2; Phillips Respironics) for ≥42 days to measure CRD. Circadian power wavelet decomposition was calculated using signal processing of actigraphy during the week prior, 1 week after, and 5 weeks after the intervention.

Results
Both real and sham acupuncture produced significant improvements in insomnia and sleep disruption (p<0.05). However, a significant increase in circadian power compared to baseline measurements was found in the acupuncture group (p=0.02) but not in the sham group (p>0.05) at 5 weeks after treatment initiation. Interestingly, this group difference was absent at 1-week post acupuncture but emerged after 5 weeks of acupuncture treatment.

Conclusions
Acupuncture but not sham showed improvement in circadian rhythm consolidation. This is one of few studies showing acupuncture’s effectiveness using an objective measure. Future research should include objective biomedical measures in addition to self-report to better understand the effect of acupuncture on cancer-related symptoms.

eP288
WHICH COPING STRATEGIES CAN PREDICT BENEFIT FINDING IN PROSTATE CANCER EXPERIENCES?
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Introduction
Although beginning evidence suggests that the capacity to find positives in adversity and thereby find some benefit from cancer-associated experiences may be influenced by coping, little is known about which different coping strategies can predict benefit finding in prostate cancer.

Objectives
To identify the extent to which different coping strategies can predict benefit finding in prostate cancer experiences.

Methods
Data from men (n =209) diagnosed with prostate cancer receiving hormone suppression therapy were analysed using descriptive statistics, bivariate correlations and backward stepwise multiple linear regression. Socio-demographic and
clinical data, and self-report scales (17-item Benefit Finding Scale and Brief COPE) were used.

Results
Bivariate analyses showed significant correlations between 14 coping strategies and benefit finding in prostate cancer. Multiple linear regression modelling showed that the predictor variables ‘acceptance’, ‘positive reframing’ and ‘turning to religion’ explained 35% of the variance in dependent variable benefit finding when the other variables were controlled for. Of the three predictor variables, acceptance and positive reinterpretation were most strongly related to benefit finding.

Conclusions
The self-reported coping strategies ‘acceptance’ and ‘positive reframing’ emerged as being most significantly predictive of benefit finding in this sample. ‘Turning to religion’ was also significant but to a somewhat lesser extent in predicting benefit finding in the disruptive experience of prostate cancer. Understanding coping strategies that are predictive of benefit finding can assist clinicians to discern and target men who are more or less likely to find benefit, and to develop person-centred support strategies that aim to optimise positive emotional states.

SURVIVOR GUILT: THE SECRET BURDEN OF CANCER SURVIVORSHIP
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Introduction
The 5-year observed survival rate for a stage IV non-small cell lung cancer patient is one percent. Such a small survival rate begs the questions of how these survivors might feel. Many survivors feel a deep-seated sense of guilt; a phenomenon known as survivor guilt.

Objectives
The goal of the present study was to identify the prevalence of survivor guilt among lung cancer patients, while also pinpointing themes among those who are affected.

Methods
A questionnaire containing a subset of the published IGQ-67 Interpersonal Guilt Questionnaire was completed via Survey Monkey by 108 respondents. Respondents were also given a definition of survivor guilt with an open-ended question on their feelings toward surviving lung cancer when others did not. Additionally, 20 respondents were interviewed via telephone to further expand on their experience which supported the quantitative data.

Results
Results from this study indicate that a significant amount of survivor guilt is experienced among lung cancer survivors. 55% of respondents identified as having experienced survivor guilt, yet 63.9% of respondents scored average on the IGQ-67 Survivor Guilt Scale. Data analysis of the sample size also established recurring demographic and clinical themes among those affected.

Conclusions
This study identifies the prevalence of survivor guilt in lung cancer patients and shows survivor guilt as a major psychosocial challenge. Further research across all cancer types must be explored in order to develop effective coping mechanisms for sufferers. This study develops the basis for future research directions in creating tools to identify and assess patients for survivor guilt.

PSYCHIATRIC LIAISON CONFERENCE AND CHANGE OF SLEEP-INDUCING DRUG UTILIZATION AS DELIRIUM MEASURES IN WARD OF HEAD AND NECK CANCER AND ESOPHAGEAL CANCER
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Introduction
In Japan Benzodiazepine receptor agonist accounts for the most among the prescription of the sleeping-induced drug. It became the vicious circle that the delirium aggravated by use of the benzodiazepine receptor agonist for the onset of delirium. We introduced delirium measures including education to the staff by the psychiatrist and enforcement of the liaison conference.

Objectives
We investigated the change of the delirium incidence and a change of the number of the prescription of the new sleep-inducing drug Ramelteon by our delirium measures for patients who mainly diagnosed head and neck cancer and esophageal cancer.

Methods
We divided into group A of hospitalized 389 patients before the introduction of measures and group B of hospitalized 311 patients after the introduction of measures. Group A included 263 surgical patients and group B included 243 surgical patients. We retrospectively investigated the incidence of the delirium and the number of the prescription of the new sleep-inducing drug Ramelteon before measures and after measures.

Results
Incidence of Delirium of group A and B were 6.4% and 4.5% respectively. Incidence of postoperative delirium of group A and B were 5% and 2%. The number of Ramelteon tablets per patients which were prescribed of group A and B were 2.1 tablets / patient and 16 tablets / patients.

Conclusions
After introduction of delirium measures, prescriptions of Ramelteon has increased significantly. Use of liaison
conferences and the introduction of Ramelteon is effective for prevention of delirium.

**eP291**

**APPLYING PERSONALISED MEDICINE APPROACHES TO MEASURING AND TREATING DEPRESSION IN PROSTATE CANCER PATIENTS BY IDENTIFYING RELEVANT SYMPTOM PROFILES**

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**Introduction**

About 25% of prostate cancer (PCa) patients become depressed, particularly during Hormone Therapy (HT). However, treatments have been only marginally successful, perhaps due to individual differences in patients’ depressive symptom profiles. It has been suggested that identification of those symptom profiles might produce better outcomes by supporting ‘personalised medicine’ treatment models for depression.

**Objectives**

(1) to ‘map’ the profiles of depression symptoms in a sample of PCa patients, and (2) to examine the trajectory of depressive symptoms during six months of HT.

**Methods**

Study 1 collected depression questionnaire data from 507 PCa patients and categorised the prevalence of depressive symptoms into ‘depression subtypes’. Study 2 collected similar data from another sample of 102 PCa patients just before they commenced HT, 3 months later and 6 months later. Trajectories of depression symptoms were plotted over time.

**Results**

Study 1: Mean subtype prevalence rates were Depressed Mood (9.3%), Anhedonic Depression (28%), Somatic Depression (8.8%) and Cognitive Depression (35.8%). Study 2: Increases in depressive symptoms during HT were restricted to a subset of those symptoms, the most powerful change being in sexual anhedonia. Further questions indicated that this was a result of inability to perform during sex rather than loss of interest in sex.

**Conclusions**

Measurement of depressive symptom profiles and specific scale items may offer a more efficacious pathway to recovery by identifying those particular aspects of depression that patients are experiencing and thereby supporting ‘personalised medicine’ models for the treatment of depression among PCa patients.

**eP292**

**PSYCHOTROPIC AND NARCOTIC DRUG USE IN OLDER WOMEN DIAGNOSED WITH BREAST CANCER ACROSS THE CANCER CARE TRAJECTORY**

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**Conclusions**

The trend for drug use was a marked increase from baseline to active care, followed by a decrease into survivorship. The only exception occurred with antidepressant use, which raises questions around why this form of psychosocial distress may persist despite completion of active care.

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**Introduction**

Earlier detection and more targeted therapies have dramatically improved breast cancer survival. Focus should now turn to managing patient-centered outcomes beyond tumor eradication, such as psychosocial distress.

**Objectives**

The purpose of this study was to characterize psychotropic (anxiolytic, antipsychotic, and antidepressant) and narcotic drug use as a surrogate marker for psychosocial distress experienced by older breast cancer patients, who represent the fastest growing component of this cancer population.

**Methods**

This prospective cohort study included 19,353 women >65 years treated for breast cancer from 1998-2012. Health service data were obtained from provincial, universal health plan databases (Quebec, Canada). Descriptive statistics were calculated for patient demographics and breast cancer characteristics. Furthermore, drug use was characterized for the following three periods of the cancer care trajectory: pre-cancer baseline, active care, and first year survivorship.

**Results**

Anxiolytics were used more than any other drug throughout the care trajectory (36.3%, 50.6%, and 44.4% at baseline, active care, and survivorship, respectively). In contrast, antipsychotic and narcotic drugs were sought primarily during active care (4.5- and 7-fold increases from baseline, respectively). Interestingly, antidepressant use peaked in active care and was sustained into survivorship (22.4% vs. 22.3%, respectively).

**Figure 1** Percentage of women who filled at least one prescription, by drug type and period of the cancer care trajectory

<table>
<thead>
<tr>
<th>Drug Type</th>
<th>Baseline</th>
<th>Active Care</th>
<th>Survivorship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiolytics</td>
<td>36.3%</td>
<td>50.6%</td>
<td>44.4%</td>
</tr>
<tr>
<td>Antipsychotics</td>
<td>3.4%</td>
<td>12.1%</td>
<td>15.7%</td>
</tr>
<tr>
<td>Narcotics</td>
<td>2.8%</td>
<td>5%</td>
<td>16.7%</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>1.4%</td>
<td>26%</td>
<td>23.5%</td>
</tr>
</tbody>
</table>

**Conclusions**

The trend for drug use was a marked increase from baseline to active care, followed by a decrease into survivorship. The only exception occurred with antidepressant use, which raises questions around why this form of psychosocial distress may persist despite completion of active care.
Further research can address whether these profiles of drug use represent effective treatment, or alternatively, highlight unmet patient needs.

**eP293**

**HOW STRESSFUL IS CARE GIVING? A QUESTION WORTH ASKING**

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**Introduction**

Caring for chronically ill patients is often an emotionally demanding task. Apart from physical, social and economic burdens, inadequate information, preparation and support for caregivers lead to significant distress, which is often underestimated.

**Objectives**

To estimate the prevalence and evaluate the factors contributing to stress in caregivers of terminally ill cancer patients and analyse the effects of such stress on the caregivers.

**Methods**

Caregivers of 89 terminally ill patients admitted at our hospice facility between October 2015 and February 2016 were evaluated for stress using the Caregiver Stress Index (CSI) Tool. Contributing factors and consequences of caregiver stress were analysed using multivariate analysis.

**Results**

Median age of patients was 52 years, while that of caregivers was 48 years. 82% of patients were male; 69% of caregivers were female. Spouses were the predominant caregivers, for 69% of patients. Co-morbidities were present in 35% of caregivers, 95.6% of caregivers desired help in some form, predominantly in financial and social domains. A CSI score of ≥ 7 was present in 77.8% of caregivers, reflecting significant stress levels. Age more than 50, female sex, education status, financial constraints, physical strain and emotional adjustments contributed significantly to overall caregiver stress, in multivariate analysis (p<0.05). Worsening of co-morbidities, exhaustion and mental confusion were more frequently observed in caregivers with high stress levels (p<0.05).

**Conclusions**

Caregiver stress is a significant problem and the absence of support systems in developing countries further compounds their suffering. Methodical evaluation of stress and suitable coping strategies is the need of the hour.

**eP294**

**THE USE OF BENZODIAZEPINES IN THE CONTINUUM OF CANCER CARE: A REVIEW**

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**Introduction**

Benzodiazepines are commonly prescribed to patients diagnosed with cancer, with prevalence of up to 22.3%. While the range of indications for their use varies widely, there has been little attention paid to the issue of evidence-based prescribing. Given that recent medical knowledge increasingly puts caution to long term benzodiazepine prescribing, its use in cancer must be re-evaluated.

**Objectives**

The objectives of this review is to survey the literature whether meaningful evidence exists for the prescribing of benzodiazepines in cancer, and whether empirically validated instruments for evaluating their efficacy have been used.

**Methods**

A literature review using PubMed and other common search engines was done with the key words benzodiazepines, malignancy, cancer in the years between 1995-2015. All studies were considered, with those studies that have controls or structured diagnostic instruments such as ICD, DSM diagnosis, HAM-D, MADRS and other rating scales were used to diagnose the primary states for which benzodiazepines were used.

**Results**

There were very few to scant studies done that had controls. The most common indications for the use of benzodiazepines are sleep disorders and non-specific anxiety, with the latter condition not usually diagnosed using structured diagnostic instruments.

**Conclusions**

Most benzodiazepines used in cancer patients are not tracked with the use of standard rating instruments.

**eP295**

**THE PREVENTION OF POSTOPERATIVE DELIRIUM FOR ESOPHAGEAL CANCER BY THE INTRODUCTION OF THE NEW SLEEPING-INDUCED DRUG**

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**Introduction**

Esophagectomy for the esophageal cancer has a high incidence of postoperative delirium. Old age, the long-term continuous use of the sleep-inducing drug and heavy drinking are high risk factor of postoperative delirium.

**Objectives**

We examined the effect of the new sleep-induced drug on postoperative delirium.

**Methods**

Seventy one patients who underwent esophagectomy for esophageal cancer between 2013 and 2015 were enrolled. We changed sleeping-inducing drug from benzodiazepine-based sleeping drug to the use of the new sleep-induced drug of Ramelteon and Suvorexant as the prevention of the postoperative delirium from 2014. We gave four points or
more a diagnosis of postoperative delirium based on mention of the medical record during the ICU stay after surgery in ISDSC (Intensive Care Delirium Screening Checklist). We compared onset frequency of the postoperative delirium between before and after introduction of prophylaxis of postoperative delirium.

**Results**

42 patients underwent esophagectomy before the introduction of prophylaxis of postoperative delirium and 29 patients underwent it after the introduction. We did not recognize the difference in the patient characteristics of both groups. The onset frequency of the postoperative delirium was 17% (7/42) at before introduction of prophylaxis and the onset frequency after introduction of prophylaxis was 0% (0/29).

**Conclusions**

It was suggested that the changes from benzodiazepine-based sleep-induced drug to the new sleeping drug of Ramelteon and Suvorexant were useful for the prevention of postoperative delirium.

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**eP296***

**HEALTH PROFESSIONALS CARING FOR PARENTS WITH CANCER WITH ADOLESCENTS AND YOUNG ADULT CHILDREN: GUIDELINES FOR ASSISTING FAMILIES IN MANAGING PARENTAL CANCER-RELATED COMMUNICATION & INFORMATION CHALLENGES**

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**Introduction**

Offspring with a parent with cancer are the largest Adolescent and Young Adult (AYA) population impacted by cancer. Communication and information provision are critical, yet often inadequately addressed, self-reported needs for this population.

**Objectives**

To synthesise communication and information-related findings from unmet needs research and a recent systematic review to a) characterise challenges faced by offspring impacted by parental cancer; and b) present practical guidelines to help health professionals (HPs) support parents with cancer in meeting the communication and information needs of their AYA offspring.

**Methods**

A systematic review of recent literature concerning AYAs impacted by parental cancer was conducted. Evidence from 15 communication, information provision, Offspring Cancer Needs Instrument-related studies, and parent support materials from an offspring-focussed intervention were synthesised to produce the guidelines.

**Results**

Offspring consider parents their main information source, value openness and honesty, and desire cancer-related information (e.g. cancer type, treatments outcomes/recovery, side-effects) but identify communication with parents and others (e.g. clinicians) as their second-greatest cancer-related unmet need. Both offspring and parents want guidance on communication; with parents describing it as a formidable cancer-related challenge. The HP guidelines include recommendations for facilitating honest and lucid information exchange, encouraging parents not to withhold information, pacing and language that support offspring understanding, and helping offspring source trustworthy information.

**Conclusions**

Developing resources to assist HPs working with parents in communicating with offspring about cancer is critical to meeting the needs of AYAs impacted by parental cancer. These guidelines are an important contribution to the delivery, by HPs, of evidence-informed support strategies to parents.

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**eP297***

**EXPANDING THE REACH: CANCER RESOURCES FOR THE STATEWIDE COMMUNITY**

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**Introduction**

There is an estimated 14.5 million cancer survivors in the United States (US) as of January 1, 2014. As a result, survivorship care is a now considered a priority in the US. One of the essential components of survivorship care is surveillance of psychosocial effects and appropriate referrals along the cancer trajectory. Performing psychosocial assessments and making appropriate referrals should be part of a comprehensive oncology assessment.

**Objectives**

The goal of the proposed project is to expand the smart phone application (App) to include up-to-date statewide psychosocial cancer care resources that any patient with cancer, caregiver or provider can access at their fingertips. People with chronic illnesses such as cancer are at the greatest need for support on improving their quality of life and minimizing their distress.

**Methods**

The methods for this project will include: (1) update the current information-technology application platform to include more end-user friendly features; (2) expand the data base to include state wide appropriate psychosocial community resources; (3) network with collaborative partners to disseminate the APP to patients with cancer, caregiver and providers statewide; and (4) track the use of the cancer Resource App through Google analytics.

**Results**

Data tracking the number of downloads of the APP, its usage, and most frequently used site will be collected from google analytics and reported.

**Conclusions**

Success of the program will be measured by number of additional users, usage, and resources, as well as additional
Introduction
Few studies have investigated whether psychosocial profiles_behaviours across the cancer journey are different for those diagnosed with rare/uncommon (R/U) cancers.

Objectives
To compare survivors of R/U cancer to those with common diagnoses, across quality of life (QOL), psychological morbidity, and use of complementary and alternative medicines (CAMs).

Methods
As part of an Australian longitudinal online survey, 1,208 cancer survivors (52.8% of the larger community sample) completed standardised measures at baseline including the Functional Assessment of Chronic Illness Therapy – Spiritual Well-Being, Expanded (FACT-Sp-Ex), the Depression Anxiety Stress Scale (DASS21), and use of 20 common CAMs for cancer-related issues.

Results
Of all survivors, 92 (7.6%) reported R/U cancers, 889 (73.6%) common cancers, and 227 (18.8%) did not report a diagnosis, so were excluded. No significant differences were found between R/U and common cancer groups across QOL scores including Physical, Social/Family, Functional, or Spiritual Wellbeing. However, R/U cancer survivors evidenced poorer Emotional Wellbeing compared to common cancer survivors (p=.04, φ=.06), and slightly elevated Stress (p=.02, φ=.08). Across CAM use, the R/U group reported significantly less use of Vitamins/Minerals (p=.003, φ=.10), Acupuncture (p=.002, φ=.10), Naturopathy (p=.02, φ=.07), and Massage (p=.03, φ=.07) compared to common cancer survivors.

Conclusions
Few differences between R/U and common cancer groups highlight great similarities across cancer journeys. Although survivors with R/U diagnoses reported poorer emotional wellbeing, greater stress, and less attraction to some CAM therapies (often sought to improve treatment outcomes and lower stress), group differences were small_to_negligible, highlighting that R/U cancer survivors don’t necessarily identify as a niche group across these areas.

eP300
TRANSLATION AND VALIDATION OF CHINESE VERSION OF THE CANCER STIGMA SCALE
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Introduction
Public stigma has a very negative influence on cancer patients’ health care. Cancer stigma, as well as its effect on cancer survival ship, is never evaluated in Chinese population.

Objectives
The purpose of this study was to test the reliability and validity of the Chinese version of the Cancer Stigma Scale (CASS).

Methods
A social work service provides effective psychosocial support to high needs guests receiving treatment away from home. Further research could investigate the impact of a social work service in the acute care setting and explore other ways to provide information and support, including group programs.
Results
The Chinese cancer stigma scale was evaluated in a sample of 382 non-patients. The study found that out scale had a satisfactory internal reliability (Cronbach’s alpha of overall scale and six components was 0.88 and 0.70-0.89, respectively). CFA confirmed the 6-factor structure (χ²/df = 2.2, GFI = 0.91, CFI = 0.94, RMSEA = 0.056, SRMR = 0.065). Our data revealed that those of younger and better knowledge about cancer had high cancer stigma scores.

Conclusions
The Chinese cancer stigma scale presented adequate internal consistency reliability and model fit indices, allowing its safe use to assess levels of cancer stigma in Chinese populations.

eP301
ENDOBRONCHIAL PALLIATION OF AIRWAY OBSTRUCTION CAUSED BY LUNG CANCER
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Introduction
Therapeutic bronchoscopy is well known option to relieve the symptoms of central non-small cell lung cancer (NSCLC).

Objectives
We discuss the possibility of aggressive endobronchial treatment (ET) as a component of palliative treatment of NSCLC.

Methods
350 patients with obstructing central locally advanced and metastatic NSCLC underwent various combinations of ET including brachytherapy (14 patients, 4%); airway stenting (48, 14%); laser ablation (69, 20%); argon-plasma coagulation (87, 25%); photodynamic therapy (350, 100%). 328 of them (94%) received chemotherapy.

Results
Endobronchial tumor was localized in the right main bronchus in 42 (12%) patients, left main bronchus - in 29 (8%), tracheal bifurcation - in 62 (18%) and trachea - in 217 (62%) patients. The average duration of each ET session was 19.5 min. Each patient underwent 6 ET sessions (from 1 to 14) with an average interval of 24 days. One patient (0.3%) died at the time of stent implantation. No other patients had major complications. In 35 patients (10%) therapeutic bronchoscopy and chemotherapy allowed to perform surgical resection for initially inoperable disease. Of the 315 patients treated without resection, 41 achieved complete endobronchial response (13%), 223 - partial response (71%), 51 - no response (16%). The one-year survival rate for patients with stage III was 70%, stage IV – 56%; median survival -19 months. 5-year survival rate for operated patients was 61%.

Conclusions
Aggressive endobronchial treatment is effective and safe option for advanced obstructing NSCLC. Therapeutic bronchoscopy may also be used to convert to surgery candidates in locally advanced central NSCLC patients.

eP302
IMPACT OF PROPHYLACTIC FENTANYL PECTIN NASAL SPRAY (FPNS) ON EXERCISE-INDUCED EPISODIC DYSPNEA IN CANCER PATIENTS: A DOUBLE-BLIND, RANDOMIZED CONTROLLED TRIAL
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Introduction
Episodic breathlessness is common in cancer patients and often limits their function.

Objectives
We examined the effect of prophylactic FPNS on exercise-induced dyspnea, physiologic function and adverse events.

Methods
In this parallel, double-blind randomized controlled trial, opioid-tolerant patients performed three 6 minute walk tests (6MWT) to induce dyspnea. They were randomized to receive either FPNS (15-25% of total daily opioid dose each time) or placebo 15 minutes before the second and third 6MWTs. We compared dyspnea numeric rating scale (NRS, 0-10, primary outcome), walk distance, vital signs, neurocognitive function and adverse events between the first and second 6MWTs (T2-T1) and between the first and third 6MWTs (T3-T1).

Results
24 patients enrolled with 96% completion. FPNS was associated with significant within-arm reduction in dyspnea NRS at rest (T2-T1: -0.9 [95% confidence interval [CI] -1.7,-0.1]; T3-T1: -1.3 [95% CI -2.0,-0.5]) and after 6 minutes (T2-T1: -2.0 [95% CI -3.5,-0.6]; T3-T1: -2.3 [95% CI -4.0,-0.7]), and longer walk distance (T2-T1 +23.8m [95% CI +1.3,+46.2m]; T3-T1: +23.3m [95% CI 1.7,+48.2]). In the placebo arm, we observed no significant change in walk distance nor dyspnea NRS at rest (T2-T1) and between the first an second 6MWTs (T2-T1) and between the first and third 6MWTs (T3-T1).

Conclusions
FPNS was safe, reduced dyspnea at rest and increased walk distance in before-after comparison. The placebo effect was substantial, which needs to be factored in future study designs.

eP303
IMPLEMENTING BEST PRACTICE APPROACHES FOR THE MANAGEMENT OF LUNG CANCER: A NATIONAL APPROACH
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Introduction
Lung cancer is the leading cause of cancer death in Australia. Survival rates are poor for both men and women and there are differences in survival by sociodemographic and Indigenous status.


Objectives
The Lung cancer best practice demonstration project aims to identify key success factors which support the implementation of the Principles across a range of service delivery settings.

Methods
Cancer Australia has engaged four health service collaborations comprising 11 sites across public, private and regional hospitals to progressively implement the Principles over two years (2014-16). The sites report on process and systems which support best practice approaches to lung cancer care in line with the Principles.

Results
Key factors contributing to the delivery of best-practice lung cancer care in relation to the principles of: Timely access to evidence-based pathways of care, Multidisciplinary care and Data-driven improvements in care include - clinical leadership, project co-ordination to drive service delivery changes, targeted communications to engage key stakeholders, information technology and setting realistic goals.

Conclusions
The application of key success factors can support the national adoption of the ‘Principles for best practice management of lung cancer in Australia’ to reduce variations in cancer care and improve outcomes for Australians diagnosed with lung cancer.

eP304

LOW LEVEL LASER THERAPY IN THE TREATMENT OF CHEMO-INDUCED GRADE III PALMAR-PLANTAR ERYTHRODYSSESTHESIA
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Introduction
Palmar-plantar erythrodyssesthesia (PPE) also called hand-foot syndrome, is a distinctive and relatively frequent dermatologic toxic reaction associated with certain chemotherapeutic and target anti-cancer agents. PPE typically presents with dysesthesia and tingling in the hands and feet, which progress into symmetrical edema and erythema and may evolve into blistering desquamation, crusting, ulceration, and epidermal necrosis.

There is a large body of evidence to support that LLLT, more recently called photobiomodulation, has an important role in the management of radiation and/or chemotherapy-related mucositis in cancer patients. Recent advances suggest that there might be other applications for LLLT in oncology and supportive care. LLLT has anti-inflammatory actions, and thus can help to control pain. It has also biostimulating properties with favorable effects on bacterial growth and wound healing.

Objectives
Our case report clearly shows that LLLT was effective in the treatment of severe chemotherapy induced PPE.

Methods
We present a case of 64 years old lady with a metastatic breast cancer who developed a complicated grade III PPE after 2 cycles of Caelyx®.

Results
The patient had a remarkable amelioration and the super infected PPE was fast cured under antibiotic, pain control, local iodine and low level laser therapy (LLLT) treatment.

Conclusions
The pegylated liposomal doxorubicin (PLD) is associated with a higher incidence of PPE than the non-encapsulated form. The main treatment for PPE is drug cessation and symptomatic treatment to provide analgesia, lessen edema and prevent superinfection. We are about to maintain a prospective study to evaluate the actual output of LLLT on PPE.

eP305

SCALP COOLING AS A PREVENTIVE METHOD OF CHEMOTHERAPY-INDUCED ALOPECIA: EXPERIENCE OF A PRIVATE CLINIC IN SAO PAULO, BRAZIL
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Introduction
Chemotherapy-induced alopecia (CIA) is one of the most distressing side effects of cancer treatment. Scalp cooiling (SC) has been studied as a preventive method of CIA since 1970’s.

Objectives
To evaluate SC results in preventing CIA in a private clinic in Brazil.

Methods
Since July 2015 we have been following 20 patients proceeding SC during chemotherapy cycles. The SC system used was Paxman Orbis machine, which consists of a refrigerator connected to a tight-fitting cooling cap that keeps a circulant fluid around a circulant fluid connected to a refrigerator, which connects to a photobiomodulation device. SC treatment started 30 minutes prior to chemotherapy infusion, was kept for 120 minutes after chemotherapy infusion. We are about to maintain a prospective study to evaluate the actual output of LLLT on PPE.

Results
The patient had a remarkable amelioration and the super infected PPE was fast cured under antibiotic, pain control, local iodine and LLLT treatment.

Conclusions
The pegylated liposomal doxorubicin (PLD) is associated with a higher incidence of PPE than the non-encapsulated form. The main treatment for PPE is drug cessation and symptomatic treatment to provide analgesia, lessen edema and prevent superinfection. We are about to maintain a prospective study to evaluate the actual output of LLLT on PPE.
Twenty patients have been followed since July 2015, all females and with median age of 51 years. The majority of patients presented breast cancer (90%). Two patients had metastatic tumors. The most common treatments were docetaxel-cyclophosphamide (25%) and doxorubicin and cyclophosphamide followed by paclitaxel - AC/T - (25%). Seven patients (35%) had success with SC, with alopecia G1. Five patients (25%) discontinued SC use. Of these, three discontinued secondary to hair loss, all of them from AC/T group. Seven patients (35%) are still under SC treatment, two with alopecia G2. Most patients (56%) complained of headache with a median pain score of VAS 4.

Conclusions
Scalp cooling is tolerable and has been showing good results in preventing CIA in our patients. Patients AC/T receivers remain challenging.

eP306
DIFFERENTIAL GENE EXPRESSION IN ELRONTIB-TREATED FIBROBLASTS
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Introduction
Given their critical role in extracellular matrix integrity and tissue repair, we explored the role of dermal fibroblasts in development and severity of epidermal growth factor (EGFR) tyrosine kinase inhibitor (TKI) rash, a distressing side effect of EGFR TKI therapy.

Objectives
To examine the erlotinib-induced gene expression changes in fibroblasts from a human cell line compared with naïve and vehicle treatment.

Methods
Human, adult, dermal fibroblasts (ATCC® PCS-201-012™) were grown to confluence and treated daily for three days with erlotinib 100nM (n = 5), erlotinib 1μM (n = 5), vehicle 1μM (DMSO) (n = 5), or naïve (n = 5). Total RNA was extracted on the fourth day and processed using the Affymetrix GeneChip® Human Genome U133A. Microarray data were normalized using GC Robust Multi-array Average background adjustment and analyzed with one-way ANOVA and Ingenuity Pathways Analysis. The false discovery rate-corrected level of significance was p ≤ 0.01.

Results
Except for several outliers, we found no difference in gene expression profiles in vehicle versus naïve cells. We identified 5048 probe sets of differentially expressed genes in fibroblasts treated with erlotinib 1μM versus naïve, including SLC7A11 (p = 4.38E-10), IL20RB (p = 0.000245038), and CDC6 (p = 0.00000119). Significant canonical signaling pathways included cell cycle control of chromosomal replication and mitochondrial dysfunction.

Conclusions
We identified significantly regulated genes in our dataset linked to lung cancer and its treatment; however, further study is needed to examine the relationship of genes enriched in fibroblasts treated with erlotinib 1μM to EGFR TKI rash.

eP307
EFFECT OF GENDER ON COAGULATION FUNCTIONS: A STUDY IN METASTATIC COLORECTAL CANCER PATIENTS TREATED WITH BEVACIZUMAB, IRINOTECAN, 5-FLUOROURACIL, AND LEUCOVORIN.
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Introduction
Coagulation functions are commonly altered in colorectal cancer

Objectives
We designed this study to evaluate how coagulation parameters are changed in metastatic colorectal cancer (mCRC) patients treated with bevacizumab, irinotecan, 5-fluorouracil, and leucovorin (FOLFIRI)

Methods
A total of 48 mCRC patients who initially received bevacizumab with FOLFIRI were eligible for this study. Thirty-four patients were analyzed at baseline and on the 4th, 8th, and 12th cycles of chemotherapy

Results
There were 19 male and 15 female patients. Baseline characteristics of the groups were similar, but women had better overall survival than men (14 months versus 12 months, P = 0.044). D-dimer levels decreased significantly after the 12th cycle compared with baseline in men but not in women. Men and women had increased levels of serum fibrinogen at the early cycles, but these increased fibrinogen levels continued after the 4th cycle of chemotherapy only in women. In addition, serum fibrinogen levels did not significantly change, but aPTT levels decreased in men

Conclusions
The major finding of this study is that bevacizumab-FOLFIRI chemotherapy does not promote changes in the coagulation system. If chemotherapy treatment and the possible side effects of FOLFIRI-bevacizumab treatment are well managed, then alterations of the coagulation cascade will not have an impact on overall survival and mortality.

eP308
ADVERSE EVENTS OF RIVAROXABAN USAGE IN CANCER PATIENTS
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Introduction
Anticoagulation occurs frequently in cancer patients due to venous thromboembolism (VTE) and comorbidities such as atrial fibrillation (AF). Rivaroxaban (RV) is an oral Xa inhibitor.

Objectives
Our aim is to describe the adverse events (AE) of RV usage in cancer patients.

Methods
Conducted a retrospective study of 62 cancer patients receiving RV for at least 5 days for VTE or non-valvular AF from 1/1/2012 through 10/31/2015. AE’s were defined per NIH standards. Descriptive statistics were utilized to summarize demographic and clinical variables.

Results
Of 62 cancer patients, the mean age was 62 years (range 31-83), 50% were male, and 77% white. The most common cancer types were gastrointestinal 9 (15%), sarcoma 9 (15%), and breast and hematologic each with 8 (13%). Of those, 49 (79%) had VTE, 9 AF (15%), and 4 (7%) had both. There were no deaths related to RV.

Adverse events of RV in cancer patients

<table>
<thead>
<tr>
<th>AE</th>
<th>Type of AE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-serious</td>
<td>Hospitalization 3 (57%) hemorrhage 4 (69%)</td>
</tr>
<tr>
<td></td>
<td>Probable 10 (77%) Probable 2 (23%)</td>
</tr>
<tr>
<td>Serious</td>
<td>Definite 2 (10%) Probable 2 (10%)</td>
</tr>
<tr>
<td></td>
<td>Definite 1 (10%) Probable 1 (10%)</td>
</tr>
<tr>
<td></td>
<td>Definite 1 (10%) Probable 2 (10%)</td>
</tr>
<tr>
<td></td>
<td>Discontinued 2 (10%) Discontinued 3 (27%)</td>
</tr>
<tr>
<td></td>
<td>Actuarial related to RV Discontinued 1 (10%)</td>
</tr>
<tr>
<td></td>
<td>Discontinued 1 (10%) Discontinued 2 (15%)</td>
</tr>
<tr>
<td></td>
<td>Discontinued 1 (10%) Discontinued 2 (15%)</td>
</tr>
<tr>
<td></td>
<td>Discontinued 1 (10%) Discontinued 2 (15%)</td>
</tr>
</tbody>
</table>

Conclusions
Cancer patients on RV do have adverse events; the majority related to bleeding. More patients with non-serious AE’s had RV discontinued although there was more bleeding in this population. More experiences using RV in this population is needed.

eP309
THROMBOSIS, CHRONIC KIDNEY DISEASE AND CANCER
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Introduction
C-KIN (Cancer & the Kidney International Network) was created in 2014 and aims at improving the management of cancer patients (CP) by developing clinical science/knowledge on the cancer treatment in chronic kidney disease (CKD) patients. A specific working group: Thrombosis, Kidney disease, and Cancer (TKC) has been created.

Objectives
The objective was to present here the summary of the scientific rationale on the links between VTE (venous thromboembolism), CKD and cancer.

Methods
CKIN-TKC working group reviewed the literature and investigated about the potential links between 1) VTE-cancer, 2) CKD-cancer and 3) VTE-CKD.

Results
CP are more exposed to VTE. At least 20% of all VTE cases occur in CP. Furthermore, CP present a high incidence of fatal pulmonary embolism and bleeding. Finally, VTE is the second risk factor of mortality in CP. CKD is frequent (12-25%) and is a risk factor for reduced overall survival in CP. Finally, every 10 ml/min/1.73 m² decrease in glomerular filtration rate is associated with an 18%-increase in cancer related mortality.

Conclusions
VTE, CKD and cancer, are closely linked. It is important to screen&manage VTE and CKD in CP and to reduce the dose of drugs, if necessary. However, the trends and risks in CP presenting both comorbidities and their potential cumulative effects have not yet been clearly evaluated. There is a need of guidelines in this specific&complex situation.

eP310
PREVALENCE, INDICATION AND COMPLIANCE WITH THE RECOMMENDATIONS OF PRESCRIPTION OF LOW MOLECULAR WEIGHT HEPARIN IN ONCOLOGY.
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Introduction
Venous thromboembolism is a common complication in cancer and is the second cause of death below infection. Low molecular weight heparin is the gold standard in venous thromboembolism during cancer.

Objectives
This work aimed to evaluate the prevalence of prescription of low molecular weight heparin used at curative dose and the compliance of our practices with the recommendations.

Methods
A retrospective study was led over a three-month period, on adult patients suffering from venous thromboembolism who had received low molecular weight heparin at curative dose.

Results
A 4% prevalence of prescription of low molecular weight heparin at curative doses has been reported. The results showed an incidental discovery of venous thromboembolism on routine restaging scans in 64% cases. The most found indication was the treatment of deep vein thrombosis (51%
cases). According to the dosage, overall compliance of prescription is estimated at 55%.

**Conclusions**
The incidental discovery rate (64%) is consistent with the literature that confirms the high incidence of asymptomatic thrombosis. The rate of non-compliant prescriptions could result from a lack of re-evaluation and adjustment of dosages. These results confirm the need to educate practitioners in diagnosing and managing venous thromboembolism.

**eP311**

**ONCOLOGIC MASSAGE CANCER PATIENTS WITH VENOUS THROMBOEMBOLISM (VTE): A CASE SERIES**

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**Introduction**
Massage therapy has been used for decreasing pain and improving quality of life. Guidelines contraindicate or caution massage therapy on patients with VTE.

**Objectives**
Highlight cancer patients with VTE undergoing massage without adverse events.

**Methods**
Retrospective review of chart.

**Results**

**Case 1:** 57-year-old female with glioblastoma multiforme with right frontal craniotomy with subsequent left sided weakness, heaviness sensation and insomnia. She developed shortness of breath and was diagnosed with bilateral Pulmonary Embolisms (PE). Patient had symptom relief measured by Edmonton Symptom Assessment System (ESAS) in drowsiness, appetite, sleep, well-being and memory. She developed PE after her 7th oncologic massage treatment. Patient started appropriate dosed anticoagulation therapy and resumed oncologic massage treatment and currently finished her 14th treatment. She continues to report no symptom distress and without adverse events. She remains on massage therapy while undergoing chemotherapy.

**Case 2:** 75-year-old gentleman with a history of advanced stage mycosis fungoides, with left leg above-the-knee amputation and a right leg below-the-knee amputation as well as a right forearm amputation for nonhealing ulcerations. He underwent massage therapy to assist with relaxation and upper back tension. He was diagnosed with DVT in lower extremities after 1 month of massage. He resumed massage on his back without complications. He reported improvement on pain and anxiety on ESAS.

**Conclusions**
This case series presents cancer patients with pain who benefited from oncologic massage treatment. Even with development of VTE, resumption of oncologic massage after starting treatment with anticoagulation, did not result in worsening symptom distress or further embolization of VTE.

**eP312**

**THE CATHETER TO VEIN RATIO AND RATES OF VENOUS THROMBOEMBOLISM IN CANCER PATIENTS WITH A PERIPHERALLY INSERTED CENTRAL CATHETER (PICC) - A PILOT STUDY**

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**Introduction**
Larger multi-lumen peripherally inserted central catheters (PICCs) are used to facilitate cancer treatment, which may inflate the risk of venous thromboembolism due to increased stasis. Previous research indicates that PICCs should not occupy more that 45% of the vein. This needs further investigation in a cancer cohort to inform medical and nursing staff of the influence of catheter and vein diameter on VTE risk.

**Objectives**
Determine the influence of the catheter to vein ratio on the risk of VTE in cancer patients with a PICC.

**Methods**
Adult cancer patients undergoing PICC insertion at a metropolitan teaching hospital were recruited May 2013-January 2014. Radiology reports were used to identify cases of symptomatic VTE.

**Results**
66 participants were recruited, equal haematological cancers and solid tumours, 58% female, mean age 57 (SD 14.97). 55% had a single lumen PICC, 36% double lumen PICC, 9% triple lumen PICC. 6% (n=4) developed symptomatic VTE post PICC insertion (3 Lymphoma; 1 leukemia). Age, gender, weight, mobility, infusion type and previous thrombus were not associated with higher VTE risk. A catheter to vein ratio >46% was associated with increased risk of VTE (RR 9.37; 95% CI 1.047-83.94; p=0.04).

**Conclusions**
Although this work needs to be replicated with a larger sample size, it appears that PICC and vein diameter may be important factors in the risk of VTE in cancer patients. Treating teams and PICC inserters should collaborate to ensure lumen number requests (hence catheter size) are able to be accommodated by patient vasculature to assist in reducing VTE risk.

**eP313**

**TOXICITIES OF THE ANTI-PD-1 IMMUNE CHECKPOINT ANTIBODY NIVOLUMAB IN THE ACUTE INPATIENT SETTING**

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**Introduction**
Nivolumab is a monoclonal immune checkpoint antibody that has demonstrated anti-tumor activity across various malignancies. Nivolumab binds to the PD-1 receptor on T-
cells, blocking PD-1 pathway-mediated anti-tumor immune response inhibition.

**Objectives**

Provide an up-to-date review of current literature of toxicities related to the use of nivolumab.

**Methods**

Analysis of cases treated in the inpatient setting at a major cancer center.

**Results**

Case #1: 74 years-old female with NSCLC with disease progression after various regimens, started on nivolumab, which was held 4 months later due to development of erethymatous, edematous papules and plaques, with overlying ulcerations and crust in forearms, thighs and trunk. Also, paronychias and loss of nail beds in both great toes. She developed no new lesions after discontinuation of immunotherapy.

Case #2: 71 years-old male with right lung NSCLC, and evidence of disease progression after completion of carboplatin and paclitaxel, who initiated nivolumab, and 4 months later developed grade 2 Nivolumab-induced pneumonitis; this was withheld and ultimately discontinued due to persistent pneumotoxicity in spite of corticosteroids.

Case #3: 41 years-old male with synchronous right lung ALK-positive adenocarcinoma, on crizotinib, and left lung squamous cell carcinoma, on nivolumab. He developed nivolumab-induced ANCA-negative glomerulonephritis, which was discontinued while continuing the crizotinib. His renal function normalized 3 months later, with GFR going from 14 to 122.

**Conclusions**

Most adverse events with the anti-PD-1 agent Nivolumab are generally reversible after discontinuation of therapy, yet some high-grade immune-related adverse events are managed with corticosteroids and other immune modulating agents. Further research is needed.

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**eP314**

**BLEEDING AND WOUND HEALING RISKS DURING RAMUCIRUMAB THERAPY FOR METASTATIC GASTRIC CANCER**


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**Introduction**

Ramucirumab is an antiangiogenic human monoclonal antibody approved for previously treated gastric and gastrointestinal adenocarcinoma (GC/GEJ) based on survival benefit. Bleeding and wound healing complications have been associated with antiangiogenics.

**Objectives**

Describe outcomes of bleeding and wound healing complications associated with ramucirumab use in GC/GEJ.

**Methods**

Adverse event data are from two randomized, placebo-controlled trials of ramucirumab alone or with paclitaxel (P) for GC/GEJ. Eligible patients had no significant gastrointestinal bleeding within 3 months, nor had serious or non-healing wounds within 28 days before randomization.

**Results**

Ramucirumab increased risk of hemorrhage, including sever and sometimes fatal events. Fatal bleeding events, mainly gastrointestinal, were <1% in each treatment arm. Median first occurrence of bleeding events was at 21 days (ramucirumab) and 55 days (ramucirumab+P). Gastrointestinal bleeding events resolved within a median of 8 days (ramucirumab) and 21 days (ramucirumab+P). No wound healing complications were observed.

![Image](316x361 to 507x446)

†No grade ≥3 events.
‡No discontinuations.

**Conclusions**

Ramucirumab increases risk of bleeding with higher rates in combination with paclitaxel. Fatal hemorrhagic events were rare in all treatment groups. Although not observed in these studies, an antiangiogenic may interfere with wound healing.

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**eP315**

**THE ADVERSE EFFECTS OF ANDROGEN DEPRIVATION THERAPY FOR PROSTATE CANCER: AT WHAT COST AND IS EXERCISE THE PANACEA?**

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3Australian Catholic University, Institute for Health & Ageing, Melbourne, Australia

**Introduction**

...
Australia has the highest incidence of prostate cancer in the world.

Objectives
This paper will present the cost of testicular preservation therapy (ADT), identify the associated adverse effects and investigate the impact of exercise in mitigating these costs.

Methods
The Australian Pharmaceutical Benefits Scheme was used to estimate the direct costs of ADT. A systematic literature review was conducted to identify the adverse effects of ADT and their prevalence. RCTs of exercise were also reviewed to determine the potential effectiveness in managing ADT adverse effects.

Results
The direct costs of ADT for prostate cancer are substantial ($190 million 2014/2015). ADT is also associated with significant adverse effects that can impact drug dose, disease outcomes and quality of life. Strategies to mitigate adverse effects can contribute further to treatment cost and risk of other harms. Research suggests that exercise is an effective therapy that slows prostate cancer progression, reverses treatment adverse effects and improves wellbeing and quality of life for cancer patients. Exercise after prostate cancer diagnosis has also demonstrated a significantly lower risk of all-cause mortality and prostate cancer death.

Conclusions
Australia's expenditure on health is growing at a faster rate than national income, while policy makers need to know what works, at what cost and how society will benefit from the investment. This research is significant in its potential to understand how exercise can reduce the burden of prostate cancer. It represents the first attempt to comprehensively cost the adverse effects of ADT for prostate cancer, contributing to more accurate cost information.

eP316

MANAGEMENT OF IMMUNE-MEDIATED HEPATITIS FROM NIVOLUMAB (CLINICAL CASE)
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Introduction
The adverse event (AE) of immune checkpoint-blocking drugs have the potential for significant morbidity and mortality.

Objectives
This clinical case summarizes the management of immune-mediated hepatitis from Nivolumab.

Methods
The 49-year-old man with advanced squamous-cell non-small-cell lung cancer was treated with nivolumab 3 mg/kg once every two weeks. After the first six weeks the patient had a partial response. On 45 cycle of treatment was an asymptomatic increasing liver hepatic transaminases (LHTs grade III). Nivolumab was discontinued. Serologic viral testing including hepatitis A and B, cytomegalovirus were negative. Progressive increasing LHTs as ALT 920 U/ml, AST 570 U/ml. (grade IV) demonstrated immune-mediated hepatitis. The patient was hospitalized. The administration of the methylprednisolone 2mg/kg (190 mg) during one week to make the LHTs is normal (grade I). The dose of methylprednisolone was reduced and 7 days after the LHTs increased (grade IV). The initial dose was resumed. After two month corticosteroid was discontinued because of severe related AE as weight gain, hypertension, cushingoid features, ventricular arrhythmias, depression. The patient was given the plasma filtration adsorption dialysis (twice) with good laboratory responses.

Results
The LHTs rapidly normalized (grade 0). The patient was without antitumor treatment for 9 months after discontinuation Nivolumab. Recent CT imaging demonstrates further regression of the tumor after initial increasing in total tumor lesions, good QoL and normal LHTs. We noted that life-threatening toxicity correlated with treatment response.

Conclusions
The management of each patient receiving immune checkpoint-blockade therapy must be individualized. The multidisciplinary approach will help oncology practitioners deliver safe and effective care.

eP317

EFFICACY OF INTRAPERITONEAL CHEMOTHERAPY COMBINED WITH SYSTEMIC CHEMOTHERAPY FOR SEROSA-INVOLVED COLORECTAL CANCER
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Introduction
To evaluate the efficacy and safety of postoperative intraperitoneal chemotherapy combined with systemic chemotherapy for serosa-involved colorectal cancer.

Objectives
To evaluate the efficacy and safety of postoperative intraperitoneal chemotherapy combined with systemic chemotherapy for serosa-involved colorectal cancer.

Methods
The clinical data for 84 patients with serosainvolved colorectal cancer treated with intraperitoneal chemotherapy combined with systemic chemotherapy from January 2009 to December 2011 were retrospectively reviewed. All patients received systemic chemotherapy two weeks after intraperitoneal chemotherapy.

Results
All patients received an average of 6 (4~16) cycles of chemotherapy, and were evaluable for efficacy and toxicity.
3-year overall survival (OS) was 77.3% (65/84), disease-free survival (DFS) was 66.6% (56/84). Major toxicity was myelosuppression and gastrointestinal toxicity, including anemia, thrombocytopenia, leukocytopenia, and nausea and vomiting. No chemotherapy-related death occurred.

**Conclusions**

Intraperitoneal chemotherapy combined with systemic chemotherapy is effective and safe for patients with serosa-involved colorectal cancer.

### eP318

**HYPERTENSION AND PROTEINURIA RISKS DURING RAMUCIRUMAB THERAPY FOR METASTATIC GASTRIC CANCER**

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**Introduction**

Antiangiogenics such as ramucirumab, approved for previously treated gastric and gastro-esophageal junction adenocarcinoma (GC/GEJ) based on survival benefit, are associated with hypertension and proteinuria.

**Objectives**

Describe incidence of and interventions for hypertension and proteinuria associated with ramucirumab in GC/GEJ.

**Methods**

Incidence and management of hypertension and proteinuria were evaluated in patients who received ramucirumab alone or with paclitaxel (P) for GC/GEJ in two phase 3 trials. Patients with uncontrolled hypertension or \( \geq 1 \)g/24h proteinuria were excluded. The protocols provided guidance based on severity of treatment-emergent hypertension and proteinuria.

**Results**

Higher incidence of treatment-emergent hypertension occurred with ramucirumab treatment. Median first occurrence of hypertension was 21 days (ramucirumab) and 37 days (ramucirumab+P). Dose delays and modifications were required in ramucirumab monotherapy (1.7%) and ramucirumab+P (1.5%) patients, with no therapy discontinuations. Severity of hypertension lessened or resolved in the majority of patients. During the trials, 21.2% (ramucirumab) and 37.9% (ramucirumab+P) patients initiated new antihypertensive agents. Incidence of proteinuria was higher with ramucirumab treatment with median first occurrence at 43 days (ramucirumab) and 73 days (ramucirumab+P). Fewer than 2% of patients in ramucirumab arms discontinued treatment due to proteinuria.

**Conclusions**

Although incidence of hypertension and proteinuria were higher in ramucirumab-treated patients, these events were primarily low-grade and manageable.

### eP319

**A DOUBLE BLIND RANDOMIZED TRIAL OF PROPHYLACTIC TOPICAL APPLICATION OF VITAMIN K1 CREAM FOR CETUXIMAB-RELATED SKIN TOXICITY: A SELF-CONTROLLED TRIAL**


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7Bristol Myers Squibb, Medical Strategy, Tokyo, Japan
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**Introduction**

The skin toxicity due to anti-EGFR antibody is very common. Some reports have shown that Vitamin K1 (VK1) cream could reduce the skin toxicity.

**Objectives**

We conducted a multi-centre, self-controlled, double-blinded randomized trial to evaluate the efficacy of topical application of a prophylactic VK1 cream in cetuximab therapy.

**Methods**

Patients were eligible if they were \( \geq 20 \) years of age, had ECOG PS of 0–2, unresectable metastatic colorectal cancer with a wild-type KRAS exon 2, no prior anti-EGFR treatment. Each patient applied a VK1-containing
higher HADS lower FACT with other types of cancer (p=0.024).

Patients have more FD than married ones (p<0.001). Patients than patients with no FD (62 (10.5SD)) (p<0.001). Single patients having FD had a lower average age (53.8 (16.7SD)) rather 73 (51%) patients declared having FD. Patients declaring FD was assessed using a self-rated numeric scale from 0 to 10.

Results

From December 2013 to March 2015, 33 patients were enrolled, out of which 28 were eligible for efficacy analysis. The compliance rate of cream application was 98.2%. There was no significant difference in the incidence of grade 2 skin toxicity on the face between the two arms (36% in each arm; p=1.00).

Conclusions

Topical application of the VK1 cream could not reduce the incidence of grade 2 cetuximab-related skin toxicity. We will report the details on the day.

eP320

FAILURE OF THE FRENCH HEALTH SYSTEM? IMPACT OF FINANCIAL DISTRESS ON QUALITY OF LIFE IN PATIENTS WITH ADVANCED CANCER C. Barbarè1,2, C. BROSSE2, W. Rhondal1, M. Delgado-goy, E. Bruera3, S. Sanche3, M. Filbet1

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Introduction

Financial burden is a major source of distress for cancer patients. French National Health Insurance takes care of the total cost of cancer treatments and therefore financial burden is supposed to be less frequent and severe than others countries.

Objectives

We examined the frequency and severity of FD and its association with quality of life (QOL) and symptoms among patients with advanced cancer in France.

Methods

In this cross sectional study, 143 patients with advanced cancer were enrolled (94 at a teaching hospital and 49 at a comprehensive cancer center). QOL was assessed using the Functional Assessment of Cancer General (FACT-G) and symptoms using Edmonton assessment system (ESAS) and Hospital Anxiety and Depression Scale (HADS). FD was assessed using a self-rated numeric scale from 0 to 10.

Results

73 (51%) patients declared having FD. Patients declaring having FD had a lower average age (53.8 (16.7SD)) rather than patients with no FD (62 (10.5SD)) (p<0.001). Single patients have more FD than married ones (p<0.001). Patients with breast cancer declared having more FD than patients with other types of cancer (p=0.024). 25 (17%) patients experienced FD due to health cost. Patients with FD had lower FACT-G score (59, p=0.005). Patients with FD had a higher HADS-D (8, p=0.007) and HADS-A (9, p=0.009) scores. FD is linked with increased ESAS score and spiritual suffering.

Conclusions

FD is frequent in our studied population and associated with a worse quality of life, increased physical and psychological symptoms and spiritual suffering.

eP321

CORRELATION OF QUALITY OF LIFE AND VISUAL ACUITY IN SURVIVORS OF BILATERAL RETINOBLASTOMA MANAGED WITH ENucleATION OF ONE EYE AND SALVAGE OF OTHER EYE A. Barra1, G. Pushkarev, P. Venkatesh2, T. Arora2, R. Tewari2, S. Bakhshi1

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Introduction

Retinoblastoma is the most common primary intraocular tumor in children. Bilateral involvement is seen in 25-30% of cases. However, there is scarcity of data on quality of life (QOL) of bilateral retinoblastoma survivors.

Objectives

To assess QOL of bilateral retinoblastoma survivors.

Methods

Bilateral retinoblastoma, who were managed with enucleation of worse eye and salvage of better eye with chemotherapy, radiation and focal therapies, and had completed therapy for more than 2 years were enrolled. QOL was assessed using validated Hindi version of PedsQLv4.0 self-report questionnaire, which consists of 23 questions on physical, school, social, and emotional domains. Nearest-age siblings formed the control group. Best-corrected distance visual acuity (BCDVA) was assessed using Snellen’s chart and classified as good (20/40 or better) or poor (worse than 20/40).

Results

Thirty-eight survivors were enrolled with median age of 12 months at diagnosis and 98 months (range, 60-247) at enrollment. Male: female ratio was 3:2. All patients received chemotherapy and 50% received radiation therapy. Compared to 34 sibling controls, QOL of survivors in all 4 domains was significantly impaired (Table 1). Fifty-three percent (20/38) survivors had good BCDVA. Physical and school domains were significantly worse in 18 survivors with poor BCDVA (74.3±5.4 vs 80.2±5.8, p=0.003; 70.2±5.9 vs 78.7±6.2, p<0.001) as compared to those with good BCDVA. Overall QOL in 20 survivors with good BCDVA was comparable to control group (80.2±6.1 vs
82.1±5.7, p=0.25).

Table 1. Overall HRQOL.

<table>
<thead>
<tr>
<th>Health Domain</th>
<th>Retinoblastoma Survivors (n=54)</th>
<th>Control (n=54)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>76.2±6</td>
<td>81.4±7.1</td>
<td>0.001</td>
</tr>
<tr>
<td>Social</td>
<td>79.8±6.1</td>
<td>83.9±6.6</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Emotional</td>
<td>78.2±5.8</td>
<td>82.5±6.5</td>
<td>0.004</td>
</tr>
<tr>
<td>School</td>
<td>79.7±6.2</td>
<td>84.8±4.8</td>
<td>0.002</td>
</tr>
<tr>
<td>Total</td>
<td>77.3±6.6</td>
<td>82.1±5.7</td>
<td>0.002</td>
</tr>
</tbody>
</table>

Conclusions
Survivors of bilateral retinoblastoma had impaired QOL; physical and school domains were significantly worse in those with poor BCDVA. Good BCDVA predicted better QOL.

eP322

ASSOCIATION BETWEEN PANCREATIC CANCER PATIENTS’ PERCEPTION OF CARE COORDINATION AND PATIENT OUTCOMES

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Introduction
People with pancreatic cancer have the worst survival prognosis of any cancer and require much care. No research has documented their perception of care coordination or considered its association with their outcomes.

Objectives
To determine if perception of care coordination is associated with patient-reported outcomes or survival.

Methods
Pancreatic cancer patients 1-8 months post-diagnosis (52 with completed resection; 58 with non-resectable disease) completed a questionnaire which assessed their perception of cancer care coordination, quality of life (FACT-Hep), anxiety and depression (HADS). Mean scores for 15 care coordination items were calculated. Associations between care coordination scores (including communication and navigation domains) and patient-reported outcomes and survival were investigated using general linear models and Cox regression, respectively. All analyses were stratified by tumour resectability.

Results
In both patient groups, the best care items reported were: knowing who was responsible for coordinating assessments and treatment; feeling that health professionals were fully informed about their history and; waiting times for appointments or treatment. The worst care items reported related to how often patients were asked about: how visits with other health professionals were going and; how well they and their family were coping. For resected patients, better communication and navigation scores were significantly associated with higher quality of life and less anxiety and depression. However these associations were not significant in those with non-resectable disease.

Perception of cancer care coordination was not associated with survival in either group.

Conclusions
For patients undergoing resection, improvements in doctor-patient/carer communication and patient-navigation may improve morbidity.

eP323

PANCREATIC ENZYME REPLACEMENT THERAPY (PERT) IN ADVANCED PANCREATIC CANCER (APC)

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Introduction
Advanced pancreatic cancer has a poor prognosis and is associated with a constellation of symptoms leading to poor quality of life. Malabsorption (MA) due to pancreatic exocrine dysfunction is common and can cause bloating/fullness, flatulence, weight loss and steatorrhoea, and may develop without obvious clinical signs. Pancreatic enzyme replacement therapy, which can alleviate MA, is
underutilised in APC. A recent study found 80% of advanced pancreatic cancer patients were not prescribed PERT, in spite of exhibiting symptoms consistent with MA.

Objectives
To determine the efficacy of PERT in improving MA symptoms, and consequent impact on global and pancreas-specific quality of life (QoL) in APC patients.

Methods
Consecutive patients with advanced pancreatic cancer referred to Nurse Maude Hospice Palliative Care Service not previously prescribed PERT were enrolled on this study. PERT (CREON 25,000) was initiated following dietary and symptom assessment by a specialist dietitian. QoL was assessed using the EORTC-QLQ C30 v3 and PAN26 questionnaires at baseline and at 1 and 3 weeks of PERT.

Results
Forty-four patients were enrolled, and 29 completed all three assessments. Clinical improvement was seen at 3 weeks in the EORTC-QLQ C30 domains of pain, shortness of breath, appetite and bowel habit. Clinical and statistically significant improvements were seen in the PAN26 domains of pancreatic pain (47 v. 26, p <0.05) and bloating (46 v. 26, p<0.05).

Conclusions
PERT improves QoL at 3 weeks in patients with APC, and merits further study to assess the durability of this improvement.

eP324

THE QUALITY OF LIFE OF HEAD AND NECK CANCER PATIENTS TREATED WITH CONCURRENT CHEMORADIATION WITH OR WITHOUT IMMUNE-ENHANCED NUTRITIONAL SUPPLEMENT
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Introduction
Nutritional supplement (NS) has been used to improve nutritional status in cancer patients. However, an impact of NS on QoL status has not been widely assessed.

Objectives
To compare the QoL outcomes in head and neck squamous cell carcinoma (HNSCC) patients during treated with concurrent chemoradiation (CCRT) with or without oral immune-enhanced NS.

Methods
Forty HNSCC patients who treated with curative CCRT were randomized to receive only diet counseling (Arm A, N=20) or diet counseling plus oral immune-enhanced NS (Arm B, N=20). The QoL outcomes were assessed using the European Organization for Research and Treatment of Cancer (EORTC) QoL questionnaire (QLQ-C30 version 3.0). All patients in this study answered the questionnaire on the first day and the last day of CCRT. The mean score of Qol outcomes were analyzed.

Results
The baseline patient characteristics and baseline QoL status were comparable between two arms. In both arms, the mean value of global health QoL between before and after treatment were not different (Arm A 73 versus 76, p = 0.427; Arm B 74 versus 78, p= 0.526). There was no significant difference of functional scale in terms of physical, role, emotional and cognitive functions excluding mean score of social function showed better result in arm A (p=0.018). The differences of all symptom scales between two arms were not observed.

Conclusions
There was no significant difference in global health QoL between diet counseling only and diet counseling plus oral immune-enhanced NS groups in HNSCC treated with CCRT.

eP325

EFFECT OF THE ANTIBIOTICS ON PATIENTS’ QUALITY OF LIFE IN A PALLIATIVE CARE UNIT OF A TERTIARY TEACHING HOSPITAL
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Introduction
Antibiotic prescription for hospice patients is still in the domain of controversy and there are no generally accepted guidelines as to the administration of antibiotics to terminal cancer patients.

Objectives
This study investigated whether symptoms contributing to quality of life improve after antibiotic administration.

Methods
We retrospectively reviewed the records of patients admitted for symptom control to the hospice ward of Korea University Guro Hospital during 2013. A total of 76 patients were enrolled in this study who have been prescribed antibiotics for more than 3 days. We checked and compared indicators such as fever, daily oral intake, opioid maintenance dose, and the number of PRN sedatives taken before and after antibiotic administration, and then recorded the number of patients who showed improved symptoms.

Results
There was no statistically significant difference between the proportion of patients whose indicators were improved by use of antibiotics and those whose indicators were made worse. For the fever indicators, the improvement of the survivor group was greater than the imminent death group, but there were no significant differences between the two groups for other indicators.

Conclusions
Antibiotics were frequently prescribed to terminal cancer patients in our study, but we did not find any significant improvement in symptoms after their use. More prospective studies on the efficacy of antibiotics should be performed, and more careful use of antibiotics in terminal cancer patients is called for.
Introduction
Cervical cancer is the most frequently diagnosed cancer among women in India. Understanding quality of life (QOL) in women undergoing chemo-radiotherapy for cervical cancer will help in introducing interventions for better care and outcomes in these women.

Objectives
This aim of the study was to assess the QOL before and after chemo-radiotherapy in cervical cancer patients.

Methods
This study covered sixty seven newly diagnosed women with advanced cervical cancer to assess the change in QOL after treatment. Structured questionnaires on Quality of Life (EORTC QLQ-C30 and EORTC QLQ-CX24) were used. QOL was assessed before initiation and after 6 months of treatment.

Results
The mean age of women at the time of detection of cervical cancer was 52.28±11.29 years (Range 30-75 years). Six months survival was 92.53%. The mean global health score of cervical cancer patients after six months of treatment was 59.52, which was significantly higher than the pre-treatment score of 50.15 (p=0.00007). Physical, cognitive and emotional functioning (p<0.05) improved significantly after treatment. Fatigue, pain, insomnia and appetite loss improved but episodes of diarrhea increased after treatment. Mean “symptoms score” using EORTC QLQ-CX24 post treatment was 19.99 which was significantly lower as compared to pre-treatment scores 29.96 (p<0.00001). Sexual enjoyment and sexual functioning decreased significantly after treatment.

Conclusions
QOL of newly diagnosed cervical cancer patients significantly improved following chemo-radiotherapy. Enhancement was also demonstrated on three of the five functional scales of EORTC QLQ-C30. To further improve QOL, interventions focusing on social, psychological support and physical rehabilitation be needed.

eP327
SPIRITUALITY, RELIGIOSITY, SYMPTOM DISTRESS AND QUALITY OF LIFE OF LATIN AMERICAN PATIENTS WITH ADVANCED CANCER: A MULTICENTER STUDY
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Introduction
The association between Spirituality(S), religiosity(R), spiritual pain(SP), symptom expression, coping strategies and Quality-of-life(QOL) have not been well characterized.

Objectives
The main purpose of this Multicenter study was to analyze these associations among Latin American patients with Advanced Cancer(LAADCa).

Methods
We interviewed 325 LAAdCa receiving outpatient Palliative Care in Chile, Guatemala, and the United States. Patients completed FICA(Spirituality/religiosity assessment), Edmonton Symptom Assessment Scale–FS(symptoms including SP), PSWQ(Worry), CESD(Psychological distress) B-COPE and B-R-COPE(coping strategies), and FACIT-sp-Ex(Spiritual Well-being).

Results
Median age 58(range: 19-85), 60% women, 62% Catholic, 30% Christian-not-Catholics, and 2% with no religious involvement. 97% of LAAdCa considered themselves spiritual and 89% religious, median intensity 7(IQR: 5-10) and 7(5-9) respectively. Median Importance of Spirituality in life(score 0-10) was 10(IQR:8-10). LAAdCa reported that S/R: helped them to cope with their illness(98%, r=0.73; p<0.0001), was a source of strength and comfort (99%, r=0.79; p<0.0001), and had a positive effect in physical symptoms (81%, r=0.40; p<0.0001), emotional symptoms(84%, r=0.42; p<0.0001), 60% of LAAdCa reported that their spiritual/religious needs had not been supported by the medical team. 162/311(52%) of LAAdCa reported Spiritual Pain(median 6; IQR: 5-8). Spiritual Pain correlated with worse pain(p=0.02), fatigue(p=0.0002), depression(p=0.0001), anxiety(p<0.0001), Financial distress(p<0.0001), worry(p<0.001), behavioral disengagement(p=0.01), FACIT-sp-Ex(p=0.0002), negative religious coping-strategies(p<0.0001). A multivariate analysis showed SP correlated with anxiety(p<0.0001), FACIT-sp-Ex(p=0.02), and negative religious coping-strategies(p=0.002).
Social support is regarded as a complex construct which has long been suggested to have direct and buffering effects on patients’ quality of life and emotional adjustment to cancer.

**Objectives**

In this study was conducted to determine factors affecting quality of life and relationship between levels of social support and quality of life of individuals with lung cancer.

**Methods**

The research was carried out on 55 lung cancer patients. The research data were collected using patient information form, Quality of Life Index Cancer Adaptation-III (EORTC QLQ-C30), Multidimensional Scale of Perceived Social Support (MSPSS). In the assessment of data; pearson correlation analysis, t test and one-way analysis of variance were used.

**Results**

It was determined that 56.43±9.12 the mean age of with lung cancer patients, that 85.5% of men, that 60.0% of primary school graduates. Individuals participating in the study EORTC QLQ-C30 health and mobility subscale mean score 19.23±3.67, social and economic 18.26±3.93, psychological/religious of 20.86±4.83, family to 24.25±5.79 and total scores were 52.09±13.57. The study found that between EORTC QLQ-C30 and MSPSS scores (p<0.01), between all subscales of EORTC QLQ-C30 and the family subscale of MSPSS scores a significant positive correlation (p<0.05).

**Conclusions**

Lung cancer patients' quality of life has been above average, was determined affects quality of life that age, gender, marital status, education level, number of treatments, the cancer type and stage and level of social support.

**A CLINICAL PREDICTION TOOL TO PREDICT ‘CHEMOBRAIN’ RISK IN PATIENTS INITIATING CHEMOTHERAPY**

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**Introduction**

Chemotherapy-related cognitive impairment or ‘chemobrain’ is a debilitating vestige of chemotherapy experienced by cancer survivors. While several ‘chemobrain’ risk factors have been identified, no prediction tool is available for ‘chemobrain’ risk assessment before chemotherapy initiation.

**Objectives**

To construct a model to predict the risk of ‘chemobrain’ at the end of chemotherapy using risk factors available before initiating chemotherapy.

**Methods**

A prospective cohort study was conducted between 2011 and 2014. FACT-Cog was used to longitudinally assess self-perceived cognitive function before and at the end of chemotherapy. A minimal clinically important reduction of 11 points in composite FACT-Cog score was used to identify ‘chemobrain’ cases. Clinical, laboratory and genetic risk factors as well as European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC-QLQ-C30), Beck Anxiety Inventory and Brief Fatigue Inventory responses were collected at baseline. Logistic regression was used for model construction. Model discrimination and calibration were assessed using the receiver operating curve (ROC) and calibration plot, respectively.

**Results**

A total of 132 early-stage breast cancer patients were included, of whom 38 reportedly experienced ‘chemobrain’. Four variables were associated with ‘chemobrain’. Older age and having two copies of Val66Met substituted BDNF gene protect against ‘chemobrain’, while higher FACT-Cog and EORTC-QLQ-C30 insomnia scores at baseline are predictive of ‘chemobrain’ at the end of chemotherapy (Table 1). The model demonstrated good discrimination (ROC: 0.76) and calibration (Figure 1).

**Conclusions**

Predicting ‘chemobrain’ risk before chemotherapy initiation with reasonable accuracy is possible. Validation of the proposed model is warranted.

**COMPARISON OF STATISTICAL ANALYSIS APPROACHES FOR ORDINAL SYMPTOM SCALES USED FOR PATIENT-REPORTED SIDE EFFECTS IN CANCER TREATMENT CLINICAL TRIALS**

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**Introduction**

...
Adverse events (AEs) in cancer trials have historically been measured by clinician report on ordinal scales (none, mild, moderate, severe, life threatening) and analyzed using simple summary measures (e.g., maximum grade post-baseline). More sophisticated methods, appropriate for PRO data, may also apply to patient-reported and clinician-reported AE data.

**Objectives**

To compare statistical approaches for patient-reported ordinal symptom scales.

**Methods**

Baseline and six post-baseline scores on a five-level ordinal scale (e.g., none, mild, moderate, severe, very severe) were simulated for 100 patients/arm in 1,000 two-arm trials using a multivariate ordinal distribution for combinations of baseline prevalence rates (5% vs 50%) and change over time (no change vs 30% increase vs 30% decrease). Between-arm comparisons included t-tests and Wilcoxon rank-sum tests of the maximum score post-baseline (maxPB) and a novel baseline subtraction score (BLsub); chi-squared tests of the rate of maxPB or BLsub >0; and generalized linear mixed models of longitudinal scores.

**Results**

When baseline prevalence was low, 30% increase vs no change yielded high frequency (>98%) of statistically significant results using all methods. When baseline prevalence was high for comparisons of 30% increase or decrease vs no change, maxPB (45-69%) yielded more statistically significant results than BLsub (40-63%) regardless of test, and the modeling approach (70-79%) had higher frequency than the chi-squared test (49-69%), Wilcoxon rank-sum test (45-66%), and t-test (40-57%).

**Conclusions**

Existing statistical approaches for clinician-reported AE data and PRO data are candidate methodologies for the statistical analysis of ordinal PRO-AE data. Future simulations will investigate the impact of non-ignorable missing data.

eP331

**MAMMO-50: RESULTS OF THE PRE-PUBLISHED INTERNAL 2 YEAR FEASIBILITY STUDY FOR MAMMOGRAPHIC SURVEILLANCE IN EARLY BREAST CANCER PATIENTS OVER 50 YEARS OF AGE AT DIAGNOSIS**

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**Objectives**

To investigate the impact of non-inferiority testing and PRO data are candidate methodologies for the statistical analysis of ordinal PRO-AE data. Existing statistical approaches for clinician-reported AE data and PRO data are candidate methodologies for the statistical analysis of ordinal PRO-AE data. Future simulations will investigate the impact of non-ignorable missing data.

**Introduction**

In the UK there is no clear evidence or consensus amongst surgeons on the optimum frequency or duration of follow-up mammographic surveillance for early breast cancer patients who are 50 years and older at diagnosis. This project was commissioned by UK NIHR HTA.

**Objectives**

Mammo-50 aims to investigate frequency and duration of mammographic surveillance whilst exploring alternative follow-up strategies. Quality of life (QoL) and patient reported outcome measures (PROMs) were also collected within the feasibility trial with the aim of identifying which questions to ask in the main trial.

**Methods**

Mammo-50 is a multicentre, randomised controlled, phase III trial of annual mammography versus 2 yearly for conservation surgery and 3 yearly for mastectomy patients. There is also a linked observational cohort study. Patients are randomised 3 years after surgery. A pre-planned internal 2 year feasibility study assessed acceptability of the trial and user perspectives.

**Results**

The 2-year feasibility study randomised 936 patients (69%) and recruited 418 patients (31%) in the cohort study. Of patients randomised, 77% underwent conservation surgery, 87% have invasive disease, 83% aged 55-75 years, 83% ER +ve and 72% undergoing hormone therapy. Focus groups explored experiences and perceptions of the trial and follow-up. Analysis of baseline, QoL and PROM data indicate that 24% patients have raised level of distress with fatigue, sleep, memory/concentration, hot flushes and pain reported as the most common problems.

**Conclusions**

Mammo-50 trial is acceptable to patients/clinical teams. Baseline PROMs/QOL gathered within the feasibility phase demonstrate 24% of early breast cancer patients 3 years post-surgery report distress.

eP332

**EFFECTS OF FOLINIC ACID AND FLUOROURACIL CHEMOTHERAPY ON RIGHT VENTRICLE FUNCTIONS AS ASSESSED WITH TRICUSPID ANNULAR PLANE SYSTOLIC EXCISION**

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**Introduction**

Cardiotoxicity is an important problem encountered with chemotherapy drugs. There are few studies in the literature investigating the cardiotoxicity of bolus regimens used in Gastrointestinal Tract cancers especially on right ventricle functions.

**Objectives**

Cardiotoxicity is an important problem encountered with chemotherapy drugs. There are few studies in the literature investigating the cardiotoxicity of bolus regimens used in Gastrointestinal Tract cancers especially on right ventricle functions.
This study aimed to investigate the effects of folinic acid and fluorouracil (bolus FUFA regimen) chemotherapy on right ventricle (RV) functions.

**Methods**

Thirty-four gastrointestinal (GI) cancer patients treated with antineoplastic drugs were included in the study. All participants received FUFA chemotherapy protocol for colorectal, gastric and pancreatic cancer (i.e. fluorouracil 400–425 mg/m2 intravenous day 1-5 + folinic acid 20-25 mg/m2 intravenous day 1-5 every 28 days x6 cycles) with or without radiation therapy according to the cancer and patient status. All participants have undergone complete physical and laboratory examination and complete echocardiographic evaluation including detailed right ventricle functional evaluations before the onset of chemotherapy and 6 months after the start of treatment.

**Results**

Mean RV thickness was 0.49 cm before chemotherapy and 0.62 cm at the end of the treatment (p=0.29). Mean tricuspid annular plane systolic excursion (TAPSE) values were 2.08 ± 0.3 and 2.00 ± 0.39 cm, respectively (p=0.25). RV total ejection isovolumic (Tei) index related to the chemotherapy did not change significantly (0.24 and 0.29, respectively, p=0.07). Also we did not find significant chance in the RV end diastolic diameter, RV end systolic diameter, vena cava diameter on inspiration and expiration.

**Conclusions**

Bolus FUFA regimen chemotherapy does not diminish the RV functions as assessed by TAPSE and RV Tei index in GI cancer patients.

eP333

CARE: FROM PALLIATIVE TO SUPPORTIVE

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**Introduction**

An in-patient unit for supportive care in oncology was created in 2011 in the George Pompidou European hospital. Its primary aim is to improve patient care and manage the complications of cancer as well as their specific treatment.

**Objectives**

In France we use the verb "to care" to explain the global coverage. When we talk about the global coverage we mean that an interdisciplinary team works around the hospitalized patient to improve the quality of life. Prior to the discussion with the patient, a multidisciplinary meeting is held to decide the optimal treatment for each individual patient.

**Methods**

The medical and para-medical team works in collaboration. We try hard to anticipate the becoming of patient: 68% of our patients come back home after their hospitalization while 10.3% of them are transferred to a palliative care unit and 4% died in the unit. These numbers prove that our unit is a supportive care unit, not a palliative care.

**Results**

The philosophy of supportive care can be defined by looking after every toxicity caused by the specific treatment and relieve each symptom. The main goal is improving the quality of life and going on as long as possible the life at home. This philosophy can be use at once in supportive care and in palliative care.

**Conclusions**

When English people use the verb "care" in France we are trying to work all together for a best support of the patients during his hospitalization. Our supportive care unit places the patient in our central concern; as equal the palliative care philosophy.

eP334

3 STEPS 4 HEALTH LEAD TO HEALTHIER PATIENTS

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**Introduction**

As Patient advocates we spent years gathering/sharing information about simple, natural strategies to reduce risk of treatment-related toxicities.

**Objectives**

A simple 3 step program that anyone can incorporate into their healthful protocol. It involves no tools and can be used at the level that an individual is at the time they start, appropriate for all.

**Methods**

Step 1: Eat 1 more fruit and 1 more vegetable daily. This is helpful since studies show many aren’t getting enough fruits or vegetables. We want to get people started on the correct path simply and easily.

Step 2: Take a walk around the room or neighborhood depending on ability/health status. This benefits anyone with cancer, undergoing treatment or in recovery.

Step 3: 7 deep breaths in a stressful situation or at bedtime. Reduces stress/encourages relaxation.

**Results**

As Patient Advocates we scoured journals for studies supporting our evidence-based concept. There are now many showing the value of one or more of the 3 steps. Combining is best.

**Conclusions**

Every step moves people forward into better health. We believe taking these first steps will lead to more healthful behaviors, better ability to handle conventional cancer treatments, and an easier recovery. In this era of interest in immune response, it makes perfect sense for each individual to strive to be their personal best. Clearly the 3 Steps 4 Health program is a beginning at an important time for those who have cancer. We will share some of the studies that lead us to this position.

eP335

EFFICACY OF SUPPORTIVE ONCODERMATOLOGY USING HYDROTHERAPY AFTER ADJUVANT BREAST CANCER TREATMENT: A RANDOMIZED CONTROLLED STUDY
Introduction
Breast cancer treatments induce dermatologic adverse events and reduce the quality of life (QoL).

Objectives
To investigate the benefits of a specific hydrotherapy treatment on QoL and on dermatologic toxicities.

Methods
A homogeneous group of patients in complete remission after (neo-)adjuvant treatment for infiltrating RH+/HER2-breast carcinoma was randomized 1-5 weeks after radiotherapy completion into a control group (CG, n=33) with best supportive care (e.g. moisturizers, topical steroids) and a treatment group with a three-week hydrotherapy (TG, n=35). Primary endpoint was EORTC QLQ-BR23 assessment of health-related QoL between D0 and D18±3, comparing TG group to CG. Skin toxicity clinical grading (NCI CTAE, V4.02), health-related QoL (QLQC30), dermatologic QoL (DLQI) and physiological well-being and self-perceived health (PGWBI) were also assessed.

Results
At inclusion, most of the patients presented multiple dermatologic toxicities persistent 5 weeks post-cancer treatment, notably dry skin (≥ grade 1 in 88% of patients). Dermatologic QoL was also worsened with a baseline DLQI score at 7.04. After hydrotherapy treatment, four dimensions from the EORTC QLQ-BR23 scale (breast symptoms (p=0.0001), lymphoedema (p=0.0015), side-effects of systemic therapy (p=0.0044) and body image (p=0.0139)) were improved in TG compared to CG, as several items from the NCI CTAE scale: dry skin (p=0.0001), skin induration (p=0.01). Xerosis was cured in all hydrotherapy patients. Skin induration was absent in 94% of TG compared to 76% of CG. Global DLQI and PGWBI scores were also improved, respectively p<0.0005 and p<0.005.

Conclusions
This hydrotherapy treatment is an effective supportive treatment improving QoL and skin adverse events in breast cancer survivors.

eP337
QUALITY OF LIFE IN COLORECTAL CANCER PATIENTS IN A GENERAL HOSPITAL
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Introduction
Patients in general hospitals diagnosed with colorectal cancer have to adjust their life in the new circumstances as far as the quality of their life is concerned.

Objectives
a)To assess the quality of life (QOL) of colorectal cancer patients who had been treated with chemotherapy and who were attending a low risk follow-up clinic.
b)To determine the accuracy of the clinic physicians assessment of patients QOL compared with the Functional Living Index-Cancer(FLI-C).Measuring the quality of life of colorectal cancer patients : the Functional Living Index Cancer: development and validation.
c)To examine a single subjective question about change in QOL.
d)To assess patient fear of colorectal cancer recurrence.

Methods
A self administered patient questionnaire, in 2012 consecutive attendees with low risk (good prognosis)
colorectal cancer follow up in the clinic. The questionnaire contained the FLI-C with four additional questions.

Results
Most colorectal cancer patients reported a good QOL. The range of FLI-C scores was 59-154, with a median score of 140 and a mean of 134. Younger patients were more fearful of colorectal cancer recurrence. Radiotherapy was associated with a worsening of QOL. Colon cancer patients living with partners experienced deterioration in sexual functioning.

Conclusions
Colorectal cancer patients attending the low risk follow up have a good overall QOL.

eP338
IMPLEMENTING APPEARANCE CARE RESEARCH FOR BREAST CANCER PATIENTS INTO ROUTINE CLINICAL PRACTICE: THE PROCESS OF CHANGES IN THE ORGANIZATION.
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Introduction
Treatment of primary breast cancer entails surgery, often followed by chemotherapy. Associated side effects including hair loss, and facial discoloration frequently compound patient distress. There are needs for appearance care to maintain their quality of life (QOL). The providers should work together to meet the needs of their patients, when implementing appearance care, as patients’ complex issues extend beyond medical needs to psychological and social needs.

Objectives
The aims of this study are to present and discuss the process of changes in the organization and understand how new attempts in the research settings became routine clinical practice.

Methods
To investigate the process of changes, qualitative method was employed. We used minutes from the program development meetings and reflection meetings during intervention research. We conducted face-to-face semi-structured interviews with nurses who facilitated the program in the intervention research.

Results
The team of nurses, beauticians, and survivor developed the program for group of patients undergoing chemotherapy. The processes of new attempts to become the routine clinical practice were as follows: Finding the right players and becoming a team; Sharing values/visions, developing a program with interprofessional team members; Initiating the research; Manifest the effect of the research through better communication with patients; Translating research into daily practice as more nurses realized the effects of the program. More nurses got involved in the program as they realized its benefits to the patients.

Conclusions
The results show that the new attempts that are reflected by team members enhanced the value of the research for dissemination and implementation.

eP339
ENHANCING DECISION-MAKING: AN ADVANCED PROSTATE CANCER DECISION-MAKING DECISION AID
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Introduction
Healthcare decision making is complex, particularly as it relates to cancer treatment. Decision aids help prepare patients and their decision partners make informed, shared decisions about treatments. This is especially true for advanced prostate cancer patients experiencing important decision-making challenges.

Objectives
This program of research aims to enhance patient care for advanced prostate cancer patients by understanding decision-making in this population. Qualitative findings are described from two studies that used an interactive decision aid for advanced prostate cancer patients with different trajectory stages along with their decision partner to facilitate informed, shared decisions about treatments that affect quality of life.

Methods
A mixed method design was used to test the decision aid among advanced prostate cancer patients. Institutional Review Boards approval were obtained.

Results
Thirty-five pairs (patient/decision partner) from two cancer centers were interviewed. Three major themes emerged: 1) the decision aid facilitated understanding of treatment options, 2) quality of life was more important than quantity of life, and 3) contact with the healthcare providers greatly influenced decisions.

Conclusions
Participants believed that the decision aid helped them become more aware of their personal values, assisted in their treatment decision-making, and facilitated an interactive patient-healthcare provider relationship.

eP340
THE EFFECT OF PATIENTS’ APPRAISAL OF ILLNESS ON POST-TREATMENT QUALITY OF LIFE IN KOREAN MEN TREATED WITH RADICAL PROSTATECTOMY FOR PROSTATE CANCER

276
Introduction
Patient’s perception of illness and treatment-related side effects may differ across cultures (Karasz et al., 2007). Unlike numerous studies showing that primary prostate cancer treatment often results in suboptimal urinary and sexual function that can interfere with health-related quality of life (QoL) in western countries, little is known about the effect of perception of illness and treatment-related symptoms on post-treatment QoL in Asian prostate cancer survivors.

Objectives
To explore patients’ appraisal of illness and treatment-related symptoms, and prostate cancer-specific QoL and to determine predictors of prostate cancer-specific QoL.

Methods
Sixty-one Korean men who received radical prostatectomy for early-stage prostate cancer were recruited from a national university hospital and interviewed with self-report questionnaires to assess urinary and sexual function, appraisal of illness, and prostate cancer-specific QoL.

Results
Participants showed reduced urinary and sexual function, low sexual satisfaction, negative appraisal, and impaired post-treatment QoL. Scores in this study were similar to those from previous studies in western patients with recurred or advanced prostate cancer. Patient’s appraisal of illness was found to be a significant factor influencing overall and domain-specific QoL after controlling for symptoms, sexual satisfaction, adjuvant treatment type, and months after diagnosis.

Conclusions
Patients’ appraisal of illness may impact post-treatment QoL in Korean prostate cancer survivors while symptoms and satisfaction with sexual function does not affect QoL significantly. This should highlight the need for further research in how to improve QoL through appraisal management with consideration for cultural uniqueness in the Asian group of prostate cancer patients.

eP341
SWALLOWING OUTCOMES FOLLOWING PRIMARY SURGICAL RESECTION AND PRIMARY FREE FLAP RECONSTRUCTION FOR ORAL AND OROPHARYNGEAL SQUAMOUS CELL CARCINOMAS: A SYSTEMATIC REVIEW
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Introduction
Swallowing function. The majority of patients were able to have gastrostomy-tubes removed at six months following curative therapy. Larger flap mass for the reconstruction of oral and oropharyngeal defects appeared to improve swallowing outcomes. A protocol for the identification of patients at high and low risk of developing dysphagia is proposed.

Dysphagia is still a treatment-related morbidity despite advances in treatment modalities for oral and oropharyngeal squamous cell carcinoma. This systematic review aimed to analyze the effects of swallowing outcomes of patients with oral or oropharyngeal squamous cell carcinoma treated with primary surgery with primary free flap reconstruction with or without adjuvant therapy for patients undergoing treatment with curative intent.

Objectives
This systematic review aimed to analyze the evidence on surgical resection and primary free flap reconstruction of oral and oropharyngeal malignancies to produce evidence useful in clinical practice and help to improve patient outcomes

Methods
Studies included patients with oral cavity or oropharyngeal squamous cell carcinoma treated with primary surgery with primary free flap reconstruction. Swallowing function was the primary outcome, evaluated at six months or later following surgery. Methodological quality and data extraction was conducted as per the Joanna Briggs Institute Meta-Analysis of Statistics Assessment and Review Instrument (JBI-MAStARI) and standardized data extraction tool.

Results
Fifteen articles including eight cohort studies and seven case-series were included. Postoperative radiotherapy and oropharyngeal resections were demonstrated to be associated with increased dysphagia.

Conclusions
Advanced TNM stage and use of adjuvant radiotherapy has been shown to have negative impacts on swallowing function. The majority of patients were able to have gastrostomy-tubes removed at six months following curative therapy. Larger flap mass for the reconstruction of oral and oropharyngeal defects appeared to improve swallowing outcomes. A protocol for the identification of patients at high and low risk of developing dysphagia is proposed.

eP342
EXPERIENCE OF PROVIDING A SEXUAL HEALTH CARE AMONG ONCOLOGY NURSES
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Introduction
Many patients with cancer are anxious and scared about their marriage, body image, and loss of self-esteem because of the sexual problems caused by cancer and its treatment. It is important to understand nursing practices related to sexuality discussions with patients because the facilitation of and removal of barriers to clinical practice related to sexual health care may impact related professional practice.

Objectives
To explore the experience of a sexual health of oncology nurses.

Methods
A purposive sample of participants from the study was recruited by the study coordinator. Ten nurses participated to achieve theoretical saturation. Content analysis was used to analyze the interviews and identify frequent and notable
themes. The participants were asked the questions: How have your clinical practice and your role as a nurse changed as a result of providing sexual health care? And (2) What do you feel like when you provide sexual health care?

**Results**

Three themes emerged from the analysis of interviews: (1) perceived barriers, (2) sharing and understanding of the patient’s suffering, and (3) active efforts to change.

**Conclusions**

Although the perceived barriers such as working with patients of the opposite sex, discomfort, and exposure of patients’ sexual lives to other patients still existed, oncology nurses maintain positive attitudes toward sexuality. Nurses’ attitudes toward an individual’s sexuality or sexual health issues and well-being are vital to the provision of optimal care.

eP343

**PATIENT-REPORTED OUTCOMES (PROS) IN DUCTAL CARCINOMA IN SITU (DCIS): A SYSTEMATIC REVIEW**

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**Introduction**

DCIS is a pre-invasive breast cancer with excellent prognosis but with potential adverse treatment impacts on quality of life and other PROs.

**Objectives**

To synthesise current evidence about PROs following treatment for DCIS.

**Methods**

We searched five electronic databases, cross-referenced and contacted experts to identify studies that reported PROs after DCIS treatment. Two reviewers independently applied inclusion and quality criteria, and extracted findings.

**Results**

Of 2130 papers screened, 23 were eligible, reporting 17 studies. Evidence was limited by study design and analytic approaches. Short- and long-term PRO evidence about differences between DCIS treatment options was lacking. Evidence pooled across treatments indicated core aspects of quality of life (physical, role, social, emotional function, pain, fatigue) and psychological distress (anxiety, depression) were impacted significantly initially, with most returning to population norms by 6–12 months, and all by 2 years post-operatively. Fears of breast cancer recurrence and of dying from breast cancer were exaggerated, occurred early and persisted for many years. Sexuality and body image impacts were generally low and resolved within one to three months after surgery. A minority of women experienced considerable impact, including depression and sexual issues associated with body image problems.

**Conclusions**

Well-powered PRO studies are required to track recovery trajectories and long-term impacts of the range of contemporary and emerging local and systemic treatments for DCIS. PRO data would enable breast cancer care providers to prepare patients for short-term sequelae, and enable patients who have treatment options available to exercise preferences in choosing among them.

eP344

**ASSESSING QUALITY OF LIFE (QOL) IN PALLIATIVE CARE SETTINGS: HEAD-TO-HEAD COMPARISON OF THE EORTC QLQ-C15-PAL AND FACT-PAL PATIENT-REPORTED OUTCOME MEASURES (PROMS)**

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**Introduction**

Palliative care primarily aims to improve QOL. Several PROMs have been developed for palliative settings. Head-to-head comparisons provide valuable information to guide selection of the best PROM for a particular setting.

**Objectives**

To describe and compare the measurement properties of the EORTC QLQ-C15-PAL and FACT-Pal QOL questionnaires.
**Methods**
Secondary analysis of QOL data from two Phase III trials: 1) ketamine for cancer pain (n=185); 2) octreotide for patients with vomiting in malignant bowel obstruction (n=106). Subgroups were defined by Australia-modified Karnofsky Performance Status (AKPS) and patients’ global impression of change (GIC) at treatment cessation. Internal consistency (Cronbach’s alpha) and test-retest reliability (intraclass correlation coefficients, ICC) were assessed for stable AKPS and ‘no change’ on GIC. Construct validity was assessed against expected correlations between AKPS and PROM scales, and expected patterns of mean PROM scores across AKPS groups and mean change scores across GIC groups.

**Results**
Cronbach’s alpha values were similar (QLQ-C15-PAL 0.51-0.85, FACTT-Pal 0.59-0.80). The FACTT-Pal scales generally had reasonable test-retest reliability, with 10/24 ICCs ≥ 0.70. The QLQ-C15-PAL ICCs were generally lower, with only 2/30 ICCs ≥ 0.70. Correlations with AKPS were generally weaker than expected, with only the QLQ-C15-PAL physical functioning scale differentiating between all three AKPS groups, and four scales differentiating between moderate and high functioning groups: QLQ-C15-PAL fatigue and dyspnoea, and FACTT-Pal functional well-being, palliative care scales and trial outcome index.

**Conclusions**
These results inform selection of PROMs for palliative care research, and provision of evidence for palliative care policies and/or programs.

eP346

**PATTERNS OF QUALITY OF LIFE AND RELATED FACTORS IN NEWLY DIAGNOSED ADVANCED LUNG CANCER PATIENTS – ONE YEAR LONGITUDINAL STUDY**
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**Introduction**
Advanced lung Cancer (LC) is one of the most life-threatening diseases and it makes severe impacts on patients’ quality of life (QOL). Relatively few studies have explored the changes of QOL in newly diagnosed advanced patients (Stage IIIB & IV).

**Objectives**
(1) examine the overall changes of QOL and its sub-patterns (if any); and (2) identify factors related to different patterns of QOL in newly diagnosed advanced LC patients of their first 12-months’ experiences.

**Methods**
This is a one-year prospective longitudinal study. We recruited subjects from a medical center in Northern Taiwan. Patients were assessed at 5 point times, including: before first treatment, and 1, 3, 6, 12 months since receiving first treatments. The QOL was measured by the overall QOL item in the EORTC QLQ-C30 (scoring 0-100). The Latent Class Growth Analysis (LCGA) was conducted to analyze the sub-patterns of QOL.

**Results**
A total of 220 subjects were recruited in this study. Three QOL patterns were identified. These included: Pattern I (around 50% of subjects) who reported moderate to good levels of QOL (scoring 70-80); Pattern II (around 45% of subjects) who reported moderate levels of QOL (scoring 50-70); and Pattern III (<10% subjects) who reported poor levels of QOL (scoring 40 or less). Overall, factors significantly related to QOL included physical function, fatigue, emotion distress, and less self-efficacy.

**Conclusions**
Timing and tailoring interventions are needed to improve QOL in patients with different QOL sub-patterns.

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eP346

**ASSOCIATION BETWEEN PATIENT PERCEPTION OF ONCOLOGY CLINICAL TRIAL PARTICIPATION AND SURVIVAL: N0392 (ALLIANCE)**
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**Introduction**
We previously reported that patient perception of their oncology clinical trial experience was influenced by factors beyond their treatment outcome (Chauhan, 2012).

**Objectives**
To assess the association between patient perception of clinical trial participation and survival.

**Methods**
This analysis included patients enrolled in 31 Phase I/II clinical trials conducted by the North Central Cancer Treatment Group who completed the Was It Worth It (WIWI) assessment one month after trial registration. A landmark analysis was conducted including only patients alive at the time of assessment in the analysis of overall survival (OS) and only those alive without progressive disease in the analysis of progression-free survival (PFS). The time-to-event starts at one-month assessment. Survival probabilities were estimated using the Kaplan-Meier estimator and compared using the log-rank test.

**Results**
Among 544 patients who were alive with one-month WIWI assessment, 405 (74%) reported satisfaction with their participation while 139 (26%) did not. OS was similar between the two groups (median 12.5 vs. 11.7 months, \( p = 0.09 \)). Among 521 patients alive without progressive disease, 392 (75%) reported satisfaction while 129 (25%) reported not satisfied. PFS was more favorable in patients
who reported satisfaction compared to those who did not (median 4.8 vs. 3.9 months, respectively, \( p = 0.01 \)).

**Conclusions**
Although patient satisfaction did not translate into an OS benefit, PFS was more favorable in patients who felt their participation was worthwhile. This research supports improving design of future oncology trials by incorporating empathetic and psychosocial support for oncology patients during clinical trial participation.

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*eP347*

**PREVALENCE AND CORRELATES OF PATIENT-REPORTED CLINICALLY SIGNIFICANT DEFICITS (CSDS) FOR PAIN, FATIGUE AND OVERALL QUALITY OF LIFE (PFQ) AMONG SOLID TUMOR ONCOLOGY PATIENTS**

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**Introduction**
Patient reported outcomes such as pain, fatigue and overall quality of life (PFQ) have implications on morbidity and mortality. Routine assessment and management of these symptoms is integral to effective patient care.

**Objectives**
This study sought to identify patterns of PFQ among a cohort of solid tumor oncology patients.

**Methods**
A symptom assessment questionnaire (SAQ), which assessed PFQ on a 0-10 scale, was provided to oncology patients at baseline and each subsequent visit. Patients with PFQ assessments at three separate time points from 2010-2012 were included in this analysis. A clinically significant deficit (CSD) in any PFQ domain was defined as a two-point worsening at any time.

**Results**
2,761 patients were included in this analysis with a total of 11,282 distinct PFQ scores reported. 50% of patients were female. 70% of patients reported a CSD in any PFQ domain, with 34% ever reporting a CSD in P, 42% in F and 37% in Q. There were no significant differences between gender, race/ethnicity, primary cancer site, disease stage, presence of metastasis or time to chemotherapy treatment and reporting of a CSD in PFQ. Patients who reported a CSD in any of the PFQ domains were likely to co-report a CSD in another domain.

**Conclusions**
The majority of cancer patients report clinically significant deficits in PFQ. There were no patient or cancer specific characteristics which were correlated with patient-reported PFQ deficits, indicating that deficits in these patient reported outcome domains are both prevalent and highly individualistic.

*eP348*

**ASSOCIATION OF PERCEIVED BARRIERS AND DECISIONAL SELF-EFFICACY ON PRACTICE OF**

**HEALTHY EATING WITH HEALTH-RELATED QUALITY OF LIFE AMONG COLORECTAL CANCER PATIENTS**

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**Introduction**
Although practicing healthy eating is essential in order to prevent recurrence of cancer and to improve health-related quality of life among colorectal cancer patients, it is difficult to practice healthy eating due to patients’ perceived barriers on practicing healthy eating. In addition, low self-efficacy which exists in a decision-making process up to reaching practices of healthy eating may prevent the practicing healthy eating.

**Objectives**
The objective of the current study was to examine the relationship between perceived barriers, decisional self-efficacy on practice of healthy eating planning, and health-related quality of life among colorectal cancer patients.

**Methods**
We analyzed 65 colorectal cancer patients with stage I-III who were diagnosed within 2 years from 2014 to 2015 in one tertiary hospital in South Korea. We measured perceived barriers on practicing healthy eating, decisional self-efficacy on practice of healthy eating planning, and health-related quality of life. The main dependent variable was health-related quality of life and we used multiple regression analyses to test the objective.

**Results**
Decreased perceived barriers on practicing healthy eating was associated with increased overall quality of life and emotional functioning, and decreased insomnia. Increased decisional self-efficacy on practice of healthy eating planning was associated with increased role functioning.

**Conclusions**
In order to help colorectal cancer patients to practice healthy eating planning and improve health-related quality of life, an approach or intervention to decrease colorectal cancer patients’ perceived barriers on practicing healthy eating and to increase decisional self-efficacy on practice of healthy eating planning will be required.

*eP349*

**CIRCADIAN RHYTHM MEDIATES THE RELATIONSHIP BETWEEN PHYSICAL ACTIVITY AND QUALITY OF LIFE IN YOUNGER AND OLDER CANCER SURVIVORS**

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**Introduction**
Increasing evidence suggests that physical activity (PA) improves the quality of life (QoL) of cancer survivors. However, the biological mechanisms underlying the relationship between PA and QoL are unclear.

Objectives
The purpose of this study was to determine whether the relationship between PA and QoL differs in younger and older cancer survivors and whether circadian rhythm (CR) mediates this relationship. We also explored the effect of the CR on QoL.

Methods
The participants were 235 cancer survivors, comprising 143 younger and 92 older patients. Data were collected using the Taiwanese versions of the Physical Activity Scale for the Elderly and Short Form-36. The robustness and stability of the CR were measured using an actigraph. Mediation was tested using multiple mediation analyses.

Results
The CR mediated the relationship between PA and the physical domain of QoL in younger and older cancer survivors (23% and 59% mediating effects, respectively). The CR partially mediated the effect of PA on the mental dimension of QoL in older cancer survivors (36% mediating effect), but not in younger cancer survivors. Cancer survivors with a more robust CR had a significantly higher QoL, particularly in the physical functioning domain (d = 0.43, p < 0.001).

Conclusions
The results provided evidence that the CR mediated the relationship between PA and QoL. Moreover, this mediating effect differed in younger and older cancer survivors. These results can serve as a reference for designing individualized PA programs for cancer survivors.

eP350

A TOPICAL BOTANICAL LOTION INCREASES AND REMODELS SCALP COLLAGEN CONTENT THROUGH LONGER ANAGEN PHASE, OPENING NEW PERSPECTIVES TO MANAGE CHEMOTHERAPY INDUCED ALOPECIA

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Introduction
Chemotherapy-induced alopecia (CIA) is considered one of the most distressing side effects of cancer therapies. Up-to-date, no approved pharmacological intervention is available. We previously demonstrated the topical product CG 428® normalized follicular cell apoptosis process and attenuated scalp micro-inflammation, preventing early onset of catagen, consequently prolonging anagen phase. Previous study observed scalp collagen content or depletion seemed to directly link to the duration of anagen and therefore normal hair cycling.

Objectives
Assessing the product efficacy in regulating scalp collagen content (as a bio-marker for normalization of hair cycle) and in mitigating CIA impacts

Methods
- Scalp biopsies from 11 AGA male subjects were analyzed for type I collagen content in paraffin sections using 0.2% Sirius red, before and after 4 months’ 2x daily product application.

- Female volunteers treated with chemotherapy (n = 10) and cancer survivors complaining from persistent hair issues (n = 21) were provided with the product twice-daily, for at least 16 weeks after chemotherapy or 6 months, respectively. Evaluation was performed through global scalp photographs.

Results
- Collagen content was increased by 79.93% after product application (p=0.029). Biopsy analysis revealed collagen remodeling.

- Baldness period, usually 20 weeks, was reduced by 5 to 16 weeks in chemotherapy treated subjects.

- 33% of cancer survivors complaining about permanent alopecia had first improvement within 1 month. After 2 months, they were 52% and 76% after 3 months.

- No side effects were observed.

Conclusions
CG 428® reduces inflammation and normalizes apoptosis, anagen phase and collagen content, consequently restoring hair cycle, opening new perspectives to manage CIA

eP351

CHEMOTHERAPY-RELATED EFFECTS ON PERIPHERAL NEUROPATHY AND QUALITY OF LIFE IN CANCER PATIENTS: AN ASIAN PERSPECTIVE

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Introduction
Chemotherapy-induced neuropathy (CIN) is common dose-limiting toxicity of several chemotherapeutic agents, for which there is no prevention, treatment or predictive biomarker. We performed a large prospective cohort study on Asian patients undergoing neurotoxic chemotherapy and report an interim analysis of neuropathy-specific quality of life changes.

Objectives
To examine chemotherapy-related effects on peripheral neuropathy and quality of life in cancer patients.

Methods
A prospective study in cancer patients undergoing neurotoxic chemotherapy. Clinical neuropathy parameters including reflexes, cotton wool and monofilament testing and validated questionnaires (EORTC-QLQ-C30, EORTC-CIPN-20, FACT-GOG-Ntx) were performed at baseline and at several time points up to 1 year from start of chemotherapy. Nerve conduction studies were performed and blood samples drawn at baseline and at end of chemotherapy. Subjects consented to access of remnant surgical pathology samples for research purposes.

Results
One hundred and one (n=101) patients were included, of which 51 (15 male and 36 female) have completed
chemotherapy and analyzed here. Mean age was 53.9 years (range 33-68), 47% were Chinese, 14% were Eurasians, 37% had breast cancer, 65% underwent taxane therapy. Significant differences were found between patients who had taxane or platinum chemotherapy where the taxane group reported higher neurotoxic symptoms at post-chemotherapy which affected their FACT-FWB (p=0.020) and FACT-Global scores (p<0.039). The taxane group also showed changes in the CIN-WHO item between Grade 0 to 1 at mid- (p<0.009) and post-chemotherapy (p<0.013).

Conclusions
The preliminary results showed that there was a progression of neuropathy among the Asian population which we will continue to follow for another 12 months post-chemotherapy.

EP352
EARLY CHANGE OF PATIENTS’ QUALITY OF LIFE MIGHT PREDICT CHEMOTHERAPY RESPONSE IN CHEMO-NAIVE LUNG CANCER PATIENTS
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Introduction
Health-related quality of life (QOL) had always been the essential part of palliative care for cancer patients.

Objectives
So we performed this perspective clinical study to explore whether QOL change correlated with chemotherapy response. (NCT01914120)

Methods
Patients with pathology diagnosed lung cancer, about to receive cytotoxic chemotherapy, with evaluable tumor lesion according to RECIST v1.0, were enrolled in this study. Patients’ QOL were assessed by Functional Assessment of Cancer Therapy-Lung (FACT-L) questionnaire at baseline and 3 weeks after first cycle chemotherapy.

Results
330 patients were consecutively enrolled from Nov 2012 to Aug 2015, 299 patients (91%) had evaluable QOL assessment and treatment response, were involved into analyze. Patients aging from 29 to 84 years (avg 56), most (59%) were adenocarcinoma, and 82% were stage IV and receiving palliative chemotherapy. Pemetrexed and platinum was the most frequent used regimen, then VP-16, and taxanes. Using trial outcome index (TOI) of FACT-L to evaluate QOL, we found that 153 patients (51.1%) had a decreased QOL after 1 cycle chemotherapy, and 146 patients (48.9%) had better QOL. We evaluate the response after 2 cycles, 47.8% patients achieved partial response (PR), 43.1% with stable disease (SD), and 9% were disease progression (PD). Patients had early QOL improvement response better in the treatment than those had QOL decreased, with an ORR 53.4% (78/146) vs. 42.5% (65/153), and DCR 95.2% vs. 86.2%, P=0.022 in chi-square testing.

Conclusions
Our results indicated that patients with early QOL improvement during chemotherapy response better, QOL assessment might have predictive value in treatment, worth further study.

EP353
ASSESSMENT OF QUALITY OF LIFE AMONG CANCER PATIENTS IN A TERTIARY CARE HOSPITAL
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Introduction
The amount of symptoms distressed experienced by an individual has been related factors exist that can affect Quality of Life (QoL) in a number of people with cancer.

Objectives
The main objective of the study is assess the quality of life among cancer patients in a tertiary care hospital.

Methods
A prospective observational study was conducted for a period of 6 months in the Oncology department. The European quality of life questionnaire (EQ-5D and VAS) was administered to assess the quality of life among cancer patients. The statistical analysis was performed by SPSS 15 version.

Results
One hundred and nineteen patients with a diagnosis of cancer completed both the EQ-5D and VAS. Out of 119 patients, male patients (n=59) outnumber the female patients (n=60) and the mean age of the patients was 48.84 ± 15.16. The majority of the patient were Breast cancer (n=9) followed by Acute lymphoblastic leukemia (n=5), Ovarian cancer (n=5), and others. The past history of chemotherapy was observed in 35.29% (n=42). The mean VAS score of the patients was 54.90 ± 12.98. The mean EQ-5D utility score of the patients was 0.56 ± 0.22.

Conclusions
The present study results revealed that an increase in age significantly affect the QoL in cancer patients (Pearson Correlation -0.281, p 0.021) and there is no significant difference between males (0.59) and females (0.51) EQ-5D utility scores with p value 0.063. It was also found that there is a significant correlation between the EQ-5D utility score and VAS (Pearson Correlation 0.312, p 0.001).

EP354
IMPORTANT ASPECTS OF QUALITY OF LIFE FOR PEOPLE RECEIVING SUPPORTIVE CARE FROM THEIR OWN PERSPECTIVE: A SYSTEMATIC REVIEW AND SYNTHESIS OF QUALITATIVE RESEARCH
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Introduction
Economic evaluations systematically compare the relative costs and benefits of competing healthcare interventions and thus provide information about how best to achieve value for money from scarce resources. Few such evaluations have been conducted in the supportive care setting, in part due to difficulties with capturing and valuing benefits.

Objectives
To determine the quality of life (QoL) domains important to adults with a life-limiting illness who are receiving supportive care from their own perspective for validating preference-based instruments.

Methods
A systematic search of 7 databases was conducted from database inception to December 2015 to identify peer-reviewed, English-language articles reporting primary qualitative data from interviews or focus group discussions explicitly investigating QoL domains in adults with a life-limiting illness receiving supportive care. Qualitative data were analysed using framework synthesis and secondary thematic analysis to determine key QoL domains.

Results
The search yielded 3,589 citations; 3,372 were excluded following assessment of the title and abstract. Screening of the remaining articles resulted in 24 included studies, all of which met the reporting assessment criteria threshold. Eight QoL domains important to adults receiving supportive care were identified from the analysis: cognitive; emotional; healthcare; personal autonomy; physical; preparatory; social and spiritual.

Conclusions
The findings suggest popular, preference-based instruments such as the EQ-5D may lack sensitivity to those things that matter most to adults receiving supportive care as aspects such as preparation for death and healthcare provision are missing.

The systematic documentation of the symptoms that is experienced and ranked by the patients' after receiving chemotherapy was done by Coates et al in 1983 when vomiting and nausea remained the most troublesome symptom among the patients. Change in the perception of symptoms by the patients' following chemotherapy was noted on the subsequent studies. Though better supportive care is now available, but as more and more patients now participate in the informed decision making, patients' perception needs periodic evaluation. Hence the present study is designed to find out patients' perception about most troublesome symptoms following chemotherapy in the present days.

Objectives
To evaluate patients’ perception and priorities of the chemotherapy related symptoms.

Methods
This was an observational study conducted in a tertiary care hospital during in 2015-2016 which partially replicates the study by Coates. All enrolled patients, who at least received one cycle of chemotherapy, have to find out the symptoms they experienced from the cards which included 45 physical and 28 psychological symptoms and then rank top 5 troublesome symptoms.

Results
A total 89 patients from both genders were interviewed.
There was considerable inter-subject variation. On an average, they experienced 12 physical and 7 psychological symptoms. Alopecia (69.7%) was the most common symptom followed by change of taste (66.3%), nausea (66.3%) and feeling anxious (66.3%). Nausea was perceived as most troublesome symptom.

Conclusions
There is partial reduction in average number of symptoms following chemotherapy. However, perception of nausea by most of the patients like earlier studies is a cause of concern.

eP356
ASSESSMENT ON THE QUALITY OF LIFE OF BREAST CANCER PATIENTS UNDERGOING RADIATION TREATMENT IN GHANA
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Introduction
Quality of life (QoL.), a multidimensional construct and an important concept, has, for many years, proven difficult to define

Objectives
The primary aim of the study was to assess factors that contribute to the quality of life of breast cancer patient undergoing radiation treatment to determine the overall quality of life and to suggest ways and methods to improve the situation

Methods
Ninety breast cancer patients referred to the Oncology Unit were conveniently sampled within a three month period. Quality of life assessment was performed using the Functional Assessment of Cancer Therapy (FACT-B) - Specific Scale for breast cancer version

Results

The peak incidence age was between (56-65) years, 60% had triple modality treatment. Seventeen percent had surgery and were on chemotherapy only, 10% had surgery and were on radiotherapy only, 10% had surgery and only one patient was on chemotherapy and radiotherapy. The scores for the quality of life domains were General Emotional (GE) well-being (18.8±4.8), General Physical (GP) well-being (16.5±6.1), General Social (GS) well-being (14.3±7.0) and General Functional (GF) well-being (10.9±5.7). Seventy percent of the patient had stable quality of life, 10% had poor quality of life and 20% had good quality of life.

Conclusions
The overall quality of life of the breast cancer patients that presented at the Oncology Unit had very stable QoL. The female to male ratio was 10:1 and the peak incidence age range was between (56-65) years

cP357

PAIN OR FATIGUE: WHICH CORRELATES MORE WITH SUFFERING?
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Introduction
The association of pain and suffering seems intuitive, but evidence substantiating this association is still lacking. In surveys of cancer patients, fatigue and not pain, is the most prevalent and debilitating symptom.

Objectives
1.) Compare pain and fatigue severity and temporal pattern with suffering; and 2.) Identify other factors contributing to suffering.

Methods
150 cancer patients were surveyed. Fifteen variables were measured on a 0-10 point scale: suffering, pain, level of acceptable pain, effect of pain on quality of life, fatigue, level of acceptable fatigue, effect of fatigue on quality of life, and specific types of suffering (due to symptoms, spiritual distress, loss of enjoyment in life, concern for loved ones, unfinished business, fear of the future). Pearson correlation was used to assess the effect of pain and fatigue on quality of life and to assess the effect of continuous variables on suffering. Linear regression analysis and bootstrapping were used to model variables that are most related to suffering.

Results
Suffering was greater among patients who were depressed (mean 5.4 vs. 4.3, P=0.019) and who feared pain (mean 5.5 vs. 4.2, P=0.008). Highest pain (parameter estimate 0.38) has a greater impact on suffering than highest fatigue (parameter estimate 0.21). By linear regression modeling and bootstrapping, 36.2% of suffering was accounted for by pain “now”, age, and fatigue in the past 24 hours.

Conclusions
The most important predictors of suffering in cancer patients are pain “now”, younger age, and fatigue in the past 24 hours.

cP358

Breast conserving therapy (BCT) is one of the treatments for breast cancer. However, after treatment, women still had to face changes in their body image and well-being.

Objectives
To explore factors that influence Quality of Life (QoL) in BCT participants.

Methods
Sequential mixed methods study. 118 women from Songklanagarind Hospital during April 2014 and October 2014 were included in the study. We used participant’s characteristics, Body Image Scale (BIS), and Functional Assessment of Cancer Therapy with Breast cancer subscale (FACT-B) for the analysis. The BIS transformed into presence of body image disturbance (BID). Factors that influence QoL were determined by stepwise multiple linear regression. 41 Participants were selected for qualitative analysis. Our female researcher performed the semi-structured interviews with the questions based on symbolic interaction theory. Final codes were analysed with thematic analysis along with investigator triangulation methods.

Results
90% had early stage breast cancer with post-completed BCT for an average of 2.7 years. The median of BIS score and FACT-B score were 2 (IQR=10) and 130 (IQR=39). In the regression analysis, age more than 50 years, and BID were significant factors. As for the value of reserved breasts, two themes emerged; a conserved breast is an essential part of participants’ life and also the representation of their womanhood; the importance of a breast is related to age.

Breast conserving therapy and quality of life in Thai females: A mixed methods study
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4Faculty of Medicine- Prince of Songkla University, Community Medicine, Hatyai, Thailand

Introduction
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Conclusions
The most important predictors of suffering in cancer patients are pain “now”, younger age, and fatigue in the past 24 hours.
Conclusions

Body image influenced QoL in post BCT participants. The conserved breasts are an essential part of participants' lives, had positive impact that lead to their having a better body image.

**eP359**

AGE IS NOT ASSOCIATED WITH CONTINENCE OUTCOMES AFTER A ROBOT ASSISTED LAPAROSCOPIC RADICAL PROSTATECTOMY (RALP)

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**Introduction**

Radical prostatectomy is offered to older patients with caution due to concerns about poor continence. Whilst it has been established that older patients have worse continence outcomes after open radical prostatectomy, there has been promising data suggesting that RALP is not associated with poorer continence in older men.

**Objectives**

To determine the effect of age at treatment on 12 month continence outcomes in men having RALP.

**Methods**

Using the South Australian Prostate Cancer Clinical Outcomes Collaborative (SA-PCCOC) database, we identified 449 patients (age range 45-76 years old) who had undergone RALP by high volume surgeons (>50 cases per annum) between March 2012 and March 2015. All patients who received an assessment and education by a specialist pelvic floor physiotherapist and had completed EPIC questionnaires before treatment were included. Exclusion criteria included salvage radiotherapy.

**Results**

Baseline continence declined with increasing age (β -0.23, p<0.01). On average, patients have poorer continence 12 months post RALP when compared with pre-treatment levels; however age was not associated with this decline (p=0.98). This observation did not change with adjustment for potential confounders including surgical margin status, nerve sparing technique (non, uni or bilateral), pathological stage or pre-treatment continence scores (p=0.41).

**Conclusions**

Age at surgery was not associated with change in continence 12 months following RALP by high volume surgeons in patients who underwent a specialist pelvic floor physiotherapy assessment and education program.

**eP360**

EXPLAINING PSYCHOLOGICAL VULNERABILITY OF CHILDREN IN SINGLE-PARENT ATTACHMENT STYLES AND PERSONALITY TRAITS OF PARENTS/PSYCHOLOGICAL FACTORS INVOLVED IN THE CHILDREN’S QUALITY OF LIFE IN SINGLE-PARENT

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**Introduction**

family breakdown and various other factors in communities face many families with single- parent of children.

**Objectives**

this study attempts to explain mental vulnerability of children in single-parent with analytical approach based on attachment parenting styles and personality traits of parents (with an emphasis on psychological factors intervening on the quality of life of children in single-parent).

**Methods**

In this cross-sectional descriptive study which was conducted with survey- correlation theme; 400 children of single-parent was selected in a cluster sampling method of government primary schools of Shiraz as the sample of the study. Finally, the collected data were analyzed through SPSS software v.19.

**Results**

The analysis of data showed that “personality trait neuroticism” alone have the ability of prediction of variance of 0.412 single-parent children's emotional and behavioral disorders with the addition of “personality trait extraversion” This amount increases to 0.437. Also, the results showed that with the increase of behavioral disorders and emotional components, the quality of life of children in single-parent reduced significantly and inversely (p> 0.05).
Conclusions
The findings of this study can be found that parental attachment styles and personality traits of neuroticism and extroversion of parents have the high predictive power on single-parent children emotional behavioral disorders. Also, an increase in behavioral-emotional disorders in children reduces their quality of life. Therefore, given the nature of the psychological profile of children in single-parent and identify the risk factors involved in vulnerability and decreased quality of life of this stratum of society is essential.

eP361
SYMPTOM BURDEN FOR PATIENTS DIAGNOSED WITH RECURRENT HEAD AND NECK CANCER: IMPLICATIONS FOR TREATMENT DECISION-MAKING
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Introduction
Despite aggressive treatment for primary disease, the incidence of recurrent head and neck cancer (rHNC) may be as high as 50%. Five-year survival rates after treatment for rHNC range from 11-39%, and morbidity after treatment can be quite high particularly due to significant disfigurement and physical dysfunction. Patients with rHNC may already have a significant symptom burden at the time of diagnosis, thus complicating their decision for further treatment.

Objectives
To describe the symptom burden of a cohort patients at the time of rHNC diagnosis.

Methods
Participants were recruited as part of a mixed-method, longitudinal patient-centered outcomes study of patients with rHNC. In order to be eligible, participants had to be age 21 years or older with newly diagnosed rHNC. Patients completed demographic and medical history information as well as the Vanderbilt Head and Neck Symptom Survey 2.0. Data were analyzed using SPSS v.22.

Results
Ages of participants (n=24) ranged from 42 to 82 years (n= 62 years). Participants were mostly male (n=16, 67%) and Caucasian (n=20, 83%). Symptom clusters with the highest severity included general pain, swallowing solids, dry mouth, trouble with hearing, and limitations in the ability to open or move one’s jaw despite a median of 14 months since primary HNC diagnosis and a median of 10 months since the end of primary treatment.

Conclusions
Patients with rHNC may be faced with treatment decision-making in the presence of high symptom burden. Patient-centered consideration with respect to symptom burden is essential in maximizing both length of survival and quality of life.

eP362
PERCEPTION OF CANCER PATIENTS TOWARDS USE OF COMPLEMENTARY & ALTERNATIVE

eP363
PATIENT REPORTED SYMPTOMS OF CANCER TREATMENT AND PATIENT SATISFACTION IN BNGO PRACTICES - A SURVEY AMONG 2104 PATIENTS WITH GYNAECOLOGIC TUMORS
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Introduction
The purpose of this study was to determine perception of cancer patients towards use of Complementary & Alternative Medicine (CAM) in supportive care.

Objectives
Information was collected through pre-tested structured questionnaires completed by cancer patients during treatment in oncology out patients department at our hospital in Delhi, India.

Methods
Information was collected through pre-tested structured questionnaires completed by cancer patients during treatment in oncology out patients department at our hospital in Delhi, India.

Results
Out of 134 patients whose data were collected, 123 patient’s data were found complete for analysis. Most patients were married (n=117, 95.12%), male (n =72, 58.5%), rural (n =81, 65.8%), educated at university ( n =46, 37.3%), head and neck cancer (n =55, 44.7%) followed by breast cancer (n =35,28.4%). Thirty four patients (27.6%) received CAM, of them 54.0% received herbal followed by nutritional supplements/vitamins (17.0%) with significant differences among them (p <0.05). Seven (5.6%) patients believed this therapy could be used alone; 38 (30.8%) patients believed it could be used with other treatments, regardless of whether they themselves used this therapy. Forty-three (34.9%) satisfied patients felt they received enough support; 29 (23.5%) patients received support from family and friends; 22 (17.8%) patients received support from the health-care team.

Conclusions
We stress enhancing the educational and supportive aspects of Complementary and Alternative Medicine (CAM) in improving quality of life in cancer patients. So we are emphasizing the need for increasing the educational and awareness programs offered to these patients.
Introduction
Gyneco-oncologists associated in the BNGO perform routine surveys on patient satisfaction among their patients. In the 2015 survey, adverse effects of cancer treatment and disease symptoms among patients were also included.

Objectives
To monitor the quality of life and satisfaction of patients with gynaecologic tumors treated in BNGO practices.

Methods
From January to November 2015, 2104 patients with gynaecologic cancers treated in 48 BNGO practices completed a printed questionnaire about their satisfaction with the practice, tumor- and therapy-related symptoms, and symptom burden. Chemotherapy patients reported side effects and rated the most distressing on a scale of 1 (least) to 10 (most).

Results
At least 96% of all patients regarded the practice equipment, organisation and staff as very good or good. 99% said their physician’s attentiveness was very good or good and almost 100% rated their physician’s competence as good or very good. 99% would seek treatment in the same practice again. The most frequent symptom in all patients was fatigue. Most distressing were hot flushes. 71% of patients received chemotherapy; 66% rated the burden of chemotherapy high or extremely high. Alopecia was the most frequently reported side effect, followed by fatigue. Nausea and vomiting were rare. 84% of patients had no vomiting on the day of chemotherapy and 82% on the days after. Alopecia was considered the most distressing side effect of chemotherapy, followed by fatigue, tiredness, and delayed nausea.

Conclusions
Patients are well satisfied with their treatment in BNGO practices. Alopecia was the most distressing side effect of chemotherapy.

eP364

EVALUATION OF THE DELIVERY OF SURVIVORSHIP CARE PLANS FOR SOUTH ASIAN WOMEN BREAST
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1
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Introduction
Introduction: This project was conceived to address gaps of language barrier and understanding of impacts of cancer treatments of diverse ethnic populations in Canada.

Objectives
Objectives: Evaluation of the delivery of survivorship care plans (SCP) for South Asian (SA) women to determine the utility and effects of a SCP.

Methods
Methods: An evaluative methodology utilizing survey methods and qualitative approach was employed for this longitudinal study in order to appraise the benefits of an individualized SCP over time. The implementation of SCPs with oncology nurses at point of discharge and family physicians (FP) perceptions of content and utility of the SCP was evaluated. SCPs were sent to FPs as well as the same time that women received theirs. FPs were surveyed to determine the utility of SCPs for patients.

Results
Results: Twenty-one women who received the SCP reported positive utility of the SCP. Qualitative data reported that they used this information to corroborate information being provided by the family physician at post-treatment visits. SCP was used a resource for community service on exercise facilities and helped family members become familiar with the steps required in order to fulfil the post-treatment needs such as blood work or mammograms. They appreciated language/cultural specifics of the SCP that allowed them to read it by themselves.

Conclusions
Conclusions: Most women recognised the benefits of the SCP, especially the information on the symptoms and resources. Despite the small sample size, it is important to recognise that quality of life has a huge impact on recovery and normalizing life.

eP365

ASSESSMENT OF QUALITY OF LIFE IN PATIENTS UNDERGOING PALLIATIVE PROCEDURES IN ADVANCED ORAL MALIGNANCIES
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Introduction
Gingivo buccal malignancy is the most common malignancy in Indian population and T4 stage is the most common presentation (66%). It is associated with high rate of local recurrence and poor survival.

Objectives
To evaluate quality of life in patients with advanced carcinoma cheek who underwent reconstruction following palliative resection.

Methods
Patients with orocutaneous fistula, extensive lymph node metastasis and evidence of advanced disease were included in the study. UW version- 3 questionnaire was used to assess the outcome in the patient and the various parameters used were Pain, Appearance, Activity, Recreation, Swallowing, Chewing, Speech, Shoulder, Taste, Saliva, Mood, Anxiety and 3 global questions as how patient feel relative to before they develop their cancer, about their health related quality of life and overall quality of life.

Results
In general the long-term QOL of oral cancer patients seems good with QOL at 6months being equivalent to long-term QOL. A number of different patient and treatment factors were identified that affect QOL. These include age, gender, site, stage, emotional status, smoking and alcohol, marital status and income, performance status, method of reconstruction, access, mandibular resection, neck dissection, and post-operative radiotherapy.

Conclusions
Quality of life should be routinely included as an assessment tool to evaluate the outcomes following palliative resection in oral malignancies.
**eP366**

**WHAT IS YOUR SINGLE BIGGEST CONCERN TODAY? PATIENT-REPORTED OUTCOME Driven CASE MANAGEMENT SYSTEM FOR ONCOLOGY PATIENTS**

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**Introduction**

Modern clinical practice places time restrictions on the amount of information and processing that can be done in a typical office visit. Meeting patient needs within the healthcare system is often inefficient and ineffective, contributing to patient and clinician dissatisfaction and suboptimal outcomes.

**Objectives**

Develop a point-of-care case management system for oncology clinical practices to elicit patient-reported concerns and provide clinicians with clinical pathways to address them.

**Methods**

Literature review and focus groups of oncology patients were used to identify key patient concerns including QOL, fatigue, pain and other cancer-specific issues scored on a scale of 0-10 via iPads. Suggested actions and available resources were identified for the patient/clinician based on the issue selected. We performed a pilot study involving 20 cancer patients to assess feasibility.

**Results**

The resultant electronic system includes a set of eight primary concern “buttons” presented in a xylophone graphical user interface: Personal Relationships, Emotional health, Physical healthy, Cancer diagnosis and treatment, Health behaviors, Money, Care planning and Something else. Every “button” was selected, most commonly Cancer diagnosis and treatment 6/20 (30%). The average completion of the tool took 4 minutes. All patients who took the survey thought it was worth it, would participate again and recommend it to others.

**Conclusions**

The system was quick and easy to use. All categories were found relevant by our patient population. This system has the potential to improve patient well-being and clinical outcomes, reduce the burden on clinicians, and distribute case management activities to the most appropriate providers.

**eP367**

**PATIENT PREFERENCES FOR THREE MODES OF PATIENT-REPORTED OUTCOME ADMINISTRATION: INTERACTIVE VOICE RESPONSE, PAPER, AND TABLET**

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**Introduction**

In a large scale prospective study of ambulatory cancer patients assessing the standardization and relative validity of the PRO-CTCAE, PROMIS, and several 0-10 numeric rating scales, we randomly allocated participants to one of three modes of administration: Interactive Voice Response (IVR), Paper, and Tablet PC. This report focuses on the receptiveness of patients to the modes used to complete surveys.

**Objectives**

To compare IVR, paper and tablet administration of these measures with respect to patient preference and willingness to continue assessments in the future.

**Methods**

We studied 1800 patients >18 years and undergoing cancer treatment at 5 large medical centers. Patients with a wide variety of tumor sites and stages were randomly assigned to the survey modes of IVR, paper or tablet.

**Results**

Comparable across survey modes, 88% of the patients reported no difficulty completing the survey. Compared to patients who completed paper surveys, patients who used the tablet or IVR reported less willingness to use paper surveys in the future (83% paper, 66% tablet, 70% IVR; p<0.0001). Patients who used the tablet were more likely than patients who used the other modes to be willing to use a tablet in the future (83% tablet, 64% IVR, 61% paper; p<0.0001). Compared to both other modes, patients were least likely to say they would be willing to use IVR in the future (62% IVR, 37% paper, 35% tablet).

**Conclusions**

The use of a specific mode influenced future receptiveness to that mode. Overall, patients’ preference was for paper or tablet.

**eP368**

**THE RELATIONSHIP BETWEEN SCALP SYMPTOMS AND QUALITY OF LIFE (QOL) IN THE BREAST CANCER PATIENTS UNDERGOING CHEMOTHERAPY**

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**Introduction**

The studies related to the patients undergoing chemotherapy-induced alopecia have been focused on the relationship between hair loss and QOL. Patients also experience scalp symptoms such as pain, itching, redness, or rash during chemotherapy; however, there are no studies investigating the relationship between scalp symptoms and their QOL.

**Objectives**

The aim of this study was to determine the scalp symptoms during chemotherapy and to investigate the relationship between scalp symptoms and QOL in patients undergoing chemotherapy.

**Methods**

A prospective study was conducted. The breast cancer women undergoing chemotherapy were recruited. Scalp symptoms were evaluated by self-reports and the observation by a single researcher. QOL was evaluated by the general QOL (FACT-B) and skin specific QOL (Skindex-16) questionnaires at the beginning of the administration, 3 weeks, 13 weeks, 24 weeks, and 9 months later. The relationship between scalp symptoms and QOL were analyzed by Mann-Whitney U test. This study was approved by the Ethical Committee.

**Results**

Eighteen patients were analyzed. The mean age was 45.7 years. All patients experienced alopecia during chemotherapy. Three weeks and 13 weeks later, about 80% of patients experienced scalp pain, itching, and redness. QOL value of FACT-Ga and Skindex-16 significantly decreased in the patients with scalp symptoms of pain, itching, redness or rash, compared to that of the patients without these scalp symptoms at 3 weeks or 13 weeks later.

**Conclusions**

This study shows scalp symptoms in the early stage of chemotherapy are very important factors related to general QOL as well as hair loss.

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**Introduction**

Gastric cancer is the third leading cause of cancer mortality worldwide with a poor prognosis and debilitating course of disease.

**Objectives**

This review compares the development, characteristics, validity, and reliability of two well-known quality of life assessment tools used in patients with gastric cancer: the European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire — Stomach (EORTC QLQ-STO22) and the Functional Assessment of Cancer Therapy — Gastric (FACT-Ga).

**Methods**

A literature search was conducted using MEDLINE, EMBASE, and Cochrane CENTRAL (inception to April 2015) to identify studies that discussed the development, characteristics, validity and reliability of the EORTC QLQ-STO22 or the FACT-Ga.

**Results**

The QLQ-STO22 was developed with collaboration with patients, healthcare professionals and literature review and was mainly field tested in European countries. Conversely, items on the FACT-Ga were generated from interviews with patients and healthcare professionals concurrently in North America and Asia. While both modules involve a 7-day recall period and use Likert scales, the QLQ-STO22 and FACT-Ga differ in terms of QOL domain focus, quantity and presentation of items, response options, and scoring. However, both tools show good internal consistency, test-retest reliability, sensitivity to change and construct validity.

In addition, both questionnaires have been internationally validated within a large sample of patients undergoing a variety of treatments, thus demonstrating their cross-cultural applicability.

**Conclusions**

The EORTC QLQ-STO22 and FACT-Ga are both valid and reliable tools with unique strengths and weaknesses. Selection between instruments should consider specific patient characteristics and goals of the study.
Results
103 primary studies were retrieved. 96 of them were excluded because they are not related to radiation therapy. Only three retrospective studies, three prospective studies and one descriptive and longitudinal study were included for in-depth review. Six studies showed decreased sexual function for patients after radiation therapy. Although there was a decrease in sexual function, sexual satisfaction and QOL did not drop in some studies.
Overall, the strength of the selected journal articles is a comprehensive investigation on various aspects of sexual function including but not limited to erectile function. However, they had small sample sizes which lowered the generalizability of the findings. Three of them were retrospective studies which induced recall bias. Moreover, the internal consistency and validity of the instruments used in 4 of the 7 selected journal articles were not mentioned.

Conclusions
Sexual function of patients with prostate cancer indeed decreased after radiation therapy. Further research is needed to explain the underlying reasons of the disassociation between sexual dysfunction and QOL.

eP371

EXPLORING THE RELATIONSHIP BETWEEN PERIPHERAL NEUROPATHY, FUNCTIONAL STATUS AND QUALITY OF LIFE IN WOMEN WITH BREAST CANCER AFTER TAXANE TREATMENT

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Introduction
Breast cancer is the most frequent female cancer in Taiwan, while its mortality rate is the forth and overall five year survival is 89%. The side effects from taxane chemotherapy decline these women’s quality of life. Taxane-induced peripheral neuropathy(TIPN) is one of side effects which is not easy to be aware and negatively influences women’s physical, psychological and social status.

Objectives
The study is to investigate the distribution and relationship among peripheral neuropathy, functional status and quality of life in women with breast cancer after taxane treatment.

Methods
A cross-sectional study design and purposive sampling were been conducted. Instruments included demographic and clinical characteristic questionnaires, Patient Neurotoxicity Questionnaire(PNO),Functional Assessment for Cancer Treatment-Taxane subscale score(FACT-Taxane), Total Neuropathy Score-clinical version(TNSc), Peripheral Neuropathy Scale(PNS) and FACT-Breast(FACT-B). SPSS 22 software was been used for data entry and analysis. The data was analyzed utilization of descriptive and inferential analyses.

Results
A total of 100 women were recruited. The average age was 51.64±9.56. There was history of receive docetaxel treatment in the majority of the participants (87%). The prevalence of subjective assessment TIPN of sensory symptoms and motor symptoms were 77% and 78%, respectively, as well as the range from mild to moderate. However, an objective assessment of TIPN up to 95%. No significant difference in FACT-B scores was observed between any regimens during the study.

Conclusions
There were differences in subjective and objective tool to assessment TIPN. Longitudinal studies would be necessary to further examine the changes of TIPN across time in female breast cancer.

eP372

DEVELOPMENT AND EVALUATION OF A PSYCHOSOCIAL MODEL TO PREDICT QUALITY OF LIFE OF BREAST CANCER PATIENTS: A MIXED METHOD STUDY

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Introduction
Quality of life of breast cancer patients is impaired because of psychosocial consequences of cancer. There is not any comprehensive model to predict quality of life of these patients based on psychosocial factors.

Objectives
The aim of this mixed method study was to develop a psychosocial model to predict quality of life of breast cancer patients.

Methods
This study had three phases: first in a grounded theory qualitative study on 29 participants, themes/subthemes of predicting factors and the provisional model were developed, then confirmed/more developed by systematic review of 122 included papers (from 1569 screened papers). Then the confirmed factors (18 variables) were assessed in a multi-center cross-sectional study on 224 breast cancer patients to develop the final model by structural equation

290
modeling (SEM).

**Results**

The main themes of grounded theory/systematic review were cognitive-emotional factors such as "coping, body image, Depression/anxiety and concerns", existential-social factors such as "spiritual well-being, social support and sense of coherence" and innate factors of "personality and stress". After SEM, in final confirmed model, "spiritual well-being and problem-focused coping" were mediators of effect of "body image, cancer concern, stress and social support" on quality of life and "emotional stability as a personality factor", influenced some of these factors. 78 percent of quality of life variance was predicted by our SEM model and its psychosocial factors.

**Conclusions**

Therapeutic interventions targeted our psychosocial model could be an appropriate strategy to improve of quality of life of these patients. Cross-cultural larger studies are suggested to better develop this new model.

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eP373

**SUPPORTING BEST PRACTICE SHARED FOLLOW-UP CARE FOR EARLY BREAST CANCER IN AUSTRALIA**

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**Introduction**

Guidelines recommend long term follow-up for women after breast cancer treatment. New models of care are required to address the increasing demand on the specialist workforce. Shared follow-up care between specialist and primary care has the potential to promote and support continuity of cancer patient care and equity of access to evidence-based care.

**Objectives**

To evaluate the extent to which shared follow-up care in general practice after treatment for early breast cancer supports best practice.

**Methods**

Following a demonstration of shared follow-up care in early breast cancer (2009-2011), an evaluation to assess the extent to which the model supports the delivery of best practice shared care, according to guidelines, was conducted (2013-15).

Patients were recruited at five sites. Shared care was implemented for 505 patients. Follow up appointments were documented over a two year period and documentation of visits and clinical actions over time were analysed. In-depth interviews with general practitioners and patients were also undertaken.

**Results**
The majority of visits included follow-up of key recommended examinations and actions. Compared to specialists, a significantly higher proportion of general practitioners documented the completion of recommended follow up actions related to; psychosocial issues, menopausal status, secondary prevention of breast cancer and family history. Mammograms were provided to 73% of patients at least annually, in accordance with guidelines. Patients reported confidence in their perception they received more care in shared follow-up care.

Conclusions
The evaluation demonstrated that shared follow-up care after treatment for early breast cancer supports adherence to clinical practice guidelines.

eP374
EVALUATION OF FUNCTION IN VARIOUS STAGES OF PROSTHETIC REHABILITATION WITH OBTURATOR FOLLOWING MAXILLECTOMY.
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Introduction
Primary goal of prosthetic obturation is closure of the maxillectomy defect and separation of the oral cavity from sinonsal-cavities after resection of neoplasm. Debilitation of the patient should be kept to minimum and recovery shortened by prior planning of the rehabilitation.

Purpose and Objectives:
To understand the psycho-social adaptation of the patients who had undergone maxillary resection and rehabilitated using prosthetics at various stages and also to evaluate improvement in function especially speech after various stages of intervention.

Material and Methods:
Total 30 consecutive cases, who completed all phases of treatment including rehabilitation with obturator prosthesis, were included. QOL evaluation was done by using EORTC-QLQ-C30 and EORTC H&N 35 questionnaires. Speech was be evaluated at different phases of study by single speech therapist with the help of Dr speech software. The study was carried out in four phases:
Pre-operative phase, Immediate post surgical phase, Interim phase, Definitive phase:

Results:
The results of the study suggest the domains of swallowing, senses, speech, social contacts, social eating, mouth opening, sticky saliva and feeding tube showed significant improvement. The speech analyzed by Dr. Speech software also showed significant improvement in Intensity Jitter & shimmer Maximum Phonation Time S/Z ratio suggesting improvement in speech with the use of different types of obturators.

Conclusions
Overall quality of life and speech of the patients improved with from use of surgical obturators to immediate obturators and finally with use of definitive obturators.

eP375
PRO-REHAB - DEVELOPING A HOLISTIC APPROACH TO CANCER REHABILITATION
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Introduction
Whilst advances in the treatment of cancer have led to improved outcomes in survival, the need for rehabilitation is often overlooked and this can compromise patients’ physical and psychological health and their quality of life. The aim of the PRO-REHAB study is to develop and assess the utility of two rehabilitation programmes (home and group based) for people following their cancer treatment.

Objectives
To explore the views and assess the feasibility, acceptability and perceived benefits of two holistic rehabilitation programmes for cancer patients.

Methods
The research reported here is part of a mixed methods study, including a pre-pilot non-randomised trial of two rehabilitation programmes (home-based and group-based) and a pilot three-arm randomised controlled study with focus group interviews to develop and assess the utility of two rehabilitation programmes.

In this paper we will report the data from focus group interviews for those who participated in the pre-pilot non-randomised trial. The population comprised 15 adults who had completed their initial intensive phase of treatment for either breast, colorectal, head and neck, lung and prostate cancer and three health care professional facilitators.

Results
The data from the interviews was analysed using framework analysis. Five main themes emerged: motivation, patient needs, programme delivery, psychosocial care and perceived benefits. Comparisons between patients and facilitators identified common sub-themes related to unmet needs, individualised care, patient choice, intervention timing and patient-held materials. Improvements in communication were also strongly highlighted.

Conclusions
Participants valued the programmes and identified rehabilitation as a gap in the cancer care pathway.

eP376
IMPAIRED NECK FUNCTION AND NECK DISABILITY IS ASSOCIATED WITH POORER HEALTH-RELATED QUALITY OF LIFE FOLLOWING NECK DISSECTION FOR HEAD AND NECK CANCER
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2School of Public Health and Social Work and the Institute for...
Introduction
Shoulder dysfunction is associated with poorer health-related quality of life (HRQOL) outcomes following neck dissection surgery in patients with head and neck cancer. What is uncertain is the impact of persisting neck dysfunction on HRQOL in these patients.

Objectives
To explore the relationship between measures of neck specific function and disability and HRQOL in patients six months to five years following neck dissection.

Methods
The sample included patients who had received neck dissection surgery at one of two tertiary hospitals in Brisbane, Australia. All participants undertook physical measures of neck active range of motion, muscle strength and sensation. Patient reported outcomes including the Neck Dissection Impairment Index (HRQOL), Neck Disability Index (disability), and a visual analogue scale (pain) were also measured. Data were analysed using linear regression modelling.

Results
Eighty-seven participants (60 men) with a mean (SD) age of 58 (14) years at time of surgery participated. Multivariable ordinary least squares regression analyses indicated that reduced neck rotation to the unaffected side (coefficient (95% CI)=0.55 (0.18, 0.92); p<0.01), greater self-reported neck disability (coefficient (95% CI)=−0.99 (-1.35,−0.63); p<0.01), and having undergone bilateral neck dissection (coefficient (95% CI)=−2.62 (-24.00,−1.24); p=0.03) were associated with reduced HRQOL (adjusted \( r^2 =0.53 \)).

Conclusions
Impaired neck function and greater self-reported neck disability were associated with lower HRQOL in patients following neck dissection. Clinically, these findings suggest pre- and post-operative strategies for patients undergoing neck dissection should consider the potential for developing complications at the neck.

eP377
AN EXAMINATION OF SHOULDER ACTIVE RANGE OF MOTION AND STRENGTH FOLLOWING NECK DISSECTION FOR HEAD AND NECK CANCER, AND THEIR ASSOCIATIONS WITH UPPER LIMB FUNCTION

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Introduction
Type of neck dissection has been associated with shoulder function after neck dissection surgery for head and neck cancer. However, few studies have investigated the association between physical impairment-based shoulder assessments and patient-perceived upper limb function after neck dissection.

Objectives
To explore associations between physical measures of shoulder impairment and patient-perceived upper limb function in patients six months to five years following neck dissection.

Methods
This cross-sectional study included patients who had received neck dissection (median (IQR) 3.5 (2.1, 4.4) years prior) at one of two tertiary hospitals in Brisbane, Australia. Patients completed the Quick Disability of the Arm, Shoulder and Hand (QuickDASH) plus measures of shoulder active range of motion and muscle strength. Data were analysed using linear regression modelling that included adjustments for surgery type and time since-surgery.

Results
Eighty-seven participants (60 men) with a median (IQR) age of 59 (48, 68) years (at surgery) participated. Multivariable ordinary least squares regression analyses indicated reduced shoulder abduction range (coefficient (95% CI)=−0.15 (-0.26,−0.03); p=0.01) and hand-behind-back internal rotation range (coefficient (95% CI)=66.36 (30.38,102.34); p<0.01) as well as reduced shoulder flexion strength (coefficient (95% CI)=−21.50 (-38.62,-4.37); p=0.02) were associated with reduced upper limb function on the QuickDASH (Adjusted \( r^2 =0.38 \)).

Conclusions
Impairment-based measurements of shoulder active range and strength were associated with upper limb function following neck dissection. Poor performance during these common clinical assessments may be indicative of meaningful upper limb dysfunction occurring in patients’ daily lives and prompt consideration of impairment-mitigating therapies.

eP378
PATIENT PHYSICAL ACTIVITY WAS DECREASED 1 WEEK AFTER ALLOGENEIC HEMATOPOIETIC TRANSPLANTATION

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Introduction
A previous study reported that physical activity was correlated with health-related quality of life (QOL) in various cancer patients. However, to date, there has been no investigation on the relationship between physical activity and health related QOL in allogeneic hematopoietic stem cell transplantation (allo-HSCT) patients.

Objectives
The purpose of this study was to evaluate the relationship between physical activity and health related QOL in allo-HSCT patients.

Methods
The study included 31 patients (men: n = 16 and women: n = 15), undergoing allo-HSCT between June 2013 and March 2015. Patients were evaluated for up to 3 weeks before, and 7 weeks after the transplantation. Daily steps and physical activity were assessed using a triaxial accelerometer. In addition, patients were evaluated for health-related QOL using the Medical Outcome Study 36-item Short Form Health Survey.

Results
Physical activity of > 3 metabolic equivalents (METs) significantly increased following transplantation compared with that measured prior to transplantation (p < 0.05). In the 8 subscales of SF-36 health-related QOL, physical functioning and bodily pain were significantly decreased following HSCT (P < 0.05). On the other hand, general health and emotional role were increased after HSCT than before HSCT (P < 0.01). Physical activity > 3 METs was positively correlated with physical functioning and general health in the health-related QOL (respectively, P < 0.05).

Conclusions
Physical activity was associated with health-related QOL. Physicians, nurses, and rehabilitation staffs should recommend exercise as increase physical activity for allo-HSCT patients.

eP379

RELATIONSHIP BETWEEN PHYSICAL ACTIVITY AND HEALTH RELATED QOL IN ALLOGENEIC HEMATOPOIETIC STEM-CELL TRANSPLANTATION PATIENTS
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3Hyogo College of Medicine, Department of Rehabilitation Medicine, Nishinomiya, Japan

Introduction
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Conclusions
Physical activity was associated with health-related QOL. Physicians, nurses, and rehabilitation staffs should recommend exercise as increase physical activity for allo-HSCT patients.

eP380

EFFECTS OF A PSYCHO-EDUCATIONAL PROGRAMME ON HEALTH-RELATED QUALITY OF LIFE IN PATIENTS TREATED FOR COLORECTAL AND ANAL CANCER
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Introduction
Rehabilitation programmes for cancer patients have been developed to reduce the negative impact of cancer on the mental well-being. Psycho-educational programmes (PEPs) constitute a common approach, in which groups of patients are provided with information about the cancer disease and how to cope in daily life. Few randomized studies have evaluated the effect of a PEP on health-related quality of life of patients treated for colorectal-cancer (CRC) or anal cancer.

Objectives
The purpose of this feasibility trial was to evaluate the effect of a psycho-educational programme (PEP) on the health-related quality of life (HRQL) of patients treated for CRC and anal cancer.

Methods

Patients with CRC and anal cancer were randomly assigned to a PEP (n=47) or standard treatment (n=39). The PEP included 7 meetings with 60 minutes professional lectures followed by 60 minutes of separate reflections led by a registered nurse. The topics of the lectures were colorectal cancer, crisis intervention, nutrition, physical activities, relaxation, operating theater and patient organization HRQL was evaluated using the SF-36 at baseline and after 1, 6, and 12 months.

Results
Patients in the PEP group had significantly better Mental Health scores after 1 month and significantly better Bodily Pain scores after 6 months compared with patients who received standard care.

Conclusions
The results of this study show that a PEP can have a short-term effect on the mental health and bodily pain of patients treated for CRC and anal cancer when comparing with a control group.

eP381
DEVELOPMENT AND VALIDATION OF THE ASSESSMENT OF THE CANCER-RELATED SYMPTOM SCALE

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Introduction
The Assessment of Cancer-related Symptom Scale (ACSS) is a clinimetric questionnaire developed for systematically measuring the impact of cancer during the illness trajectory. The ACSS is developed for clinical a patient-reported core set of symptoms of adult cancer with 7 additional psychosocial items. The response scale consists of 4 alternatives.

Objectives
The aim is to evaluate the validity of The Assessment of Cancer-related Symptom Scale (ACSS)

Methods
The ACSS was developed systematically through defining what to measure, which items and what scale should be used in addition to testing as well as testing. The content validity was tested on 18 persons treated with chemotherapy, age 36-90 by means of a structured interview were the patients were asked to explain what the instructions asked them to do, what the questions were about, and how and why they chose a certain alternative. The patients were encouraged to think aloud while they thought about and filled in the questionnaire. The convergent and concurrent validity was evaluated by testing the correlation with 17 selected items in EORTC QLQ-C30. A total of 75 patients treated for 13 different cancer types took part in the evaluation. The correlations between the questionnaires were tested with Spearman rank correlation tests.

Results
The data collection will be finished in February 2016 and the analysis and final results in Mars.

Conclusions
The instrument can be a tool for cancer patients and oncology rehabilitation team to systematically assess, treat and relieve cancer related symptoms and problems.

eP382
FUNCTIONAL IMPACT OF 1 KG CHANGE IN LEAN BODY MASS IN ELDERLY PATIENTS WITH ADVANCED NON-SMALL-CELL LUNG CANCER

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Introduction
Increase or maintenance of lean body mass (LBM) is a common endpoint in targets the treatment of cancer cachexia.

Objectives
The aim of this study is to explore the clinical significance of LBM change in elderly patients with cachexia-rich advanced cancer.

Methods
Patients aged <=70 years with advanced non-small-cell lung cancer (NSCLC, stage III-IV) were prospectively enrolled. Hand-grip strength (HGS, kg) and incremental shuttle walking distance (ISWD, m) were measured 3 times every 6 weeks. LBM (kg) was estimated by lumbar computed tomography analysis. Association between change in LBM and change in HGS or ISWD was analyzed by linear regression method.

Results
Among 30 patients (11 women and 19 men), median age was 76 (min-max, 70-89) years. 18 (60.0%) and 7 (23.3%) patients were diagnosed with cachexia and pre-cachexia, respectively. Change in LBM was significantly associated with change in HGS ($\beta = 0.5$ kg per unit increase in LBM, 95%CI: 0.1 - 0.9) and ISWD ($\beta = 10.6$ m, 95%CI: 2.6-18.5). Increment values of ISWD were differed among different subsets according to gender, cachexia status, complication, and types of treatment.

Conclusions
Change in muscle strength or walking capacity during chemotherapy was reflected in change in LBM. LBM might be a good surrogate marker for physical function in the elderly patients with advanced NSCLC. (Clinical Trials Registry No.UMIN000009768)

eP383
THE EFFECTS OF POSTOPERATIVE MYOFASCIAL RELEASE THERAPY FOR BREAST CANCER
Introduction
Breast cancer operation often results in pain, impaired shoulder function, those make lowering quality of life of patients. But there is little concern about early rehabilitative intervention for postoperative breast cancer patients.

Objectives
Myofascial release is known to be effective in controlling symptoms in patients with chronic myofascial pain syndrome. To measure the effectiveness of myofascial release therapy in breast cancer patients with postoperative pain, impaired range of motion and satisfaction rate of patients' global assessment, we performed the study.

Methods
A single center, prospective, observational study was conducted in Daejeon Wellness hospital in Korea. Manual therapy including myofascial release therapy started in the first 4~6 weeks after breast cancer surgery, and lasted for 4 weeks.

Results
18 patients were enrolled. But 3 patients were dropped. Total 15 patients completed the study, every patients had pain on postoperative affected shoulder, 8 patients had impaired ROM. Mean pain intensity (VAS) of first day was 3.8 and that of last day was 2.25. 93% of patients experienced pain improvement. The improvement in mean range of motion of the affected arm was abduction 30 degree (SD 20.4), external rotation 38.3 degree (SD 20.4), forward flexion 48.8 degree (SD 20.8). Satisfaction rate of the patients’ global assessment was 83%.

Conclusions
This study demonstrated manual therapy including myofascial release decrease shoulder pain intensity and improved range of motion. Also satisfaction rate was increasing after myofascial release. We conclude myofascial release therapy is very effective manual therapy for patients after breast cancer surgery, further study may show promising results.

eP384
FEASIBILITY OF HOME VS. HOSPITAL BASED RESISTANCE TRAINING FOR ADVANCED CANCER PATIENTS: STUDY PROTOCOL OF A PHASE II TRIAL
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Introduction
Sarcopenia has been widely reported as an important prognostic factor in advanced cancer, with impact on survival, toxicities, response to treatment and other patient-centered outcomes (such as functional capacity, quality of life and fatigue) [3]. There is evidence that resistance training can be effective[4] but evidence is still scarce for patients with advanced disease. Another question to be answered is whether home is a better setting when compared to hospital for training. A home-based therapist-guided intervention format could enable patients to remain at home, but we do not know if this is feasible, safe and more acceptable to patients compared to a hospital-based model.

Objectives
The aim of this research project is to investigate the feasibility, tolerability and safety of a home-based vs. hospital-based resistance training program to manage sarcopenia in adults with advanced cancer.

Methods
This three-arm trial will test an individualised exercise program in both settings, compared with standard care. The program consists of a set of exercises designed for completion in 3 months (3 sessions of 45 minutes per week, total of 12 weeks), guided by trained physiotherapists. We will enroll 15 adult patients up to 60 days after diagnosis of incurable cancer (stages IIIIB or IV) and randomise them to standard of care vs. resistance training at home vs. resistance training at the hospital.

Results

Conclusions
We expect the data to reveal if the two intervention models and the control are feasible, tolerable, safe and acceptable to patients, with a view to inform progression to a phase III trial.

eP385
“THE HORSE HAS BOLTED I SUSPECT” – A QUALITATIVE STUDY OF CLINICIANS’ PRACTICE AND ATTITUDES REGARDING PALLIATIVE REHABILITATION
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Introduction
Advanced cancer patients have numerous rehabilitation needs that increase with disease progression. Palliative rehabilitation practices, and perceptions of palliative medicine physicians towards the role of rehabilitation are largely unstudied.

Objectives
To explore palliative medicine physicians’ attitudes towards rehabilitation, and examine current models of palliative rehabilitation delivered within inpatient palliative care units. **Methods**

Australian palliative medicine physicians working in inpatient palliative care units were purposefully sampled and invited to participate in a semi-structured interview. Transcribed interviews were analysed using thematic analysis and major themes reported as results. **Results**

Twenty physicians participated, representing specialist palliative care units across Australia. Eleven (55%) were male with an average of 12.5 years experience working in palliative care. Most participants believed rehabilitation was an important aspect of palliative care, however few felt adequate rehabilitation programs were available. The term rehabilitation was seen by some as helpful (fostering hope, aiding transitions) and by others misleading (creating unrealistic expectations). Four key themes emerged when describing physicians’ attitudes, including 1) Integrating rehabilitation within palliative care, 2) The intervention, 3) Possibilities and 4) The message of rehabilitation. **Conclusions**

There is a lack of consensus amongst palliative medicine specialists regarding many aspects of palliative rehabilitation. Many expressed a wish to offer enhanced rehabilitation interventions, however described resource and skill-set limitations as significant barriers. Further research is required to establish an evidence base and consensus for palliative rehabilitation to support its integration within specialist inpatient palliative care. **eP386**

**EXERCISE-BASED REHABILITATION INTERVENTIONS FOR CANCER SURVIVORS IN INDIA: A SYSTEMATIC REVIEW**

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3University Of Alberta, Faculty Of Rehabilitation Medicine, Alberta, Canada

**Introduction**

Existing literature suggests that cancer survivors present with high rates of morbidity due to various treatment and disease induced factors. Research globally has shown exercise to be beneficial in improving treatment outcomes and quality of life. India has a large burden of cancer and not much is known about exercise interventions for cancer survivors in India. **Objectives**

This review was planned to review the state of exercise based interventions for cancer survivors in India based on cancer sites, type of exercise & outcome measures used in research. **Methods**

A comprehensive literature search was performed in PubMed, CINAHL, EMBASE, Scopus, Cochrane Library, PEDro, IndMed, and Shoda Ganga. The search results were screened and data extracted by two independent reviewers. All eligible studies were assessed for methodological quality rating using Downs and Black checklist. Data was extracted using a pilot tested pro forma to summarize information on site and stage of cancer, type of exercise intervention and outcome measures. **Results**

The review identified 13 studies after screening 4060 articles. Exercise interventions largely fell into one of three categories: 1) yoga-based, 2) physiotherapy-based and 3) speech-therapy based exercise interventions; and exclusively involved either breast or head and neck cancers. Studies were generally of low to moderate quality. A broad range of outcomes were found including symptoms, speech and swallowing, and quality of life and largely supported the benefits of exercise-based interventions. **Conclusions**

At present, research involving exercise-based rehabilitation interventions in India is limited in volume, quality and scope. With the growing burden of cancer in the country, there is an immediate need for research within the socio-cultural context of India. **eP387**

**THE IMPACT OF CANCER REHABILITATION ON EACH ITEM OF THE BARTHEL INDEX**

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**Introduction**

Previous studies have detected functional gains, as measured using activities of daily living (ADL) scores such as the Barthel Index (BI) (Yoshika 1994, etc.) and the functional independence measure (Christina 1996, etc.), in hospitalized cancer patients who received transdisciplinary rehabilitation. However, no previous studies have examined how cancer rehabilitation contributes to each item of such ADL scores. **Objectives**

To assess the effect of cancer rehabilitation on each item of the BI. **Methods**

A retrospective study was conducted among hospitalized cancer patients that underwent supportive and palliative rehabilitation from July to October 2015. Patients who could not complete their rehabilitation programs were eliminated. This study was approved by the institutional review board of Gunma Prefectural Cancer Center. The patients’ BI and Eastern Cooperative Oncology Group Performance Status (PS) scores were measured at the beginning and end of the intervention and were compared using the Wilcoxon signed-rank test. **Results**

Forty-two patients (22 males; mean age, 68.6±/12.6 years) were enrolled in this study. The mean rehabilitation period was 14.2+/16.6 days. The mean BI total score was 55.2+/29.6 at the beginning and 67.6+/26.9 at the end of the intervention. The mean PS score was 2.6+/0.9 at the
beginning and 2.4+/−0.9 at the end of the intervention. Both the BI and PS improved significantly (P<0.05). Concerning each item of the BI, significant improvements in feeding, transfers, locomotion, and bowel and bladder control were detected (P<0.01).

Conclusions
Cancer rehabilitation makes an important contribution to BI items related to mobility and bedside self-care.

eP388

EXERCISING DURING ACUTE CANCER TREATMENTS IMPROVES PHYSICAL FUNCTION AND REDUCES ADVERSE EFFECTS.

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7University of Queensland, Centre for Clinical Research, Queensland, Australia

Introduction
Convenience and integration of exercise assessment and prescription as an integral component for patient management and support should be of benefit to patients.

Objectives
The aim of this study was to evaluate the physical outcomes of an onsite supervised exercise program administered during cancer patients’ acute treatment phase.

Methods
Over 20 months, 136 patients (43 male and 93 female) completed a supervised exercise program within the chemo and radiation therapy outpatient suites. Patients with a variety of cancers, mainly breast (76 cases), prostate (21 cases) and colorectal cancer (10 cases) undertook a structured exercise program either immediately before or after each oncological treatment session for the duration of their therapy. Assessments were conducted at baseline and post-intervention including neuromuscular strength, physical function and body composition.

Results
Only sixty patients opted for baseline assessment and only 26 patients (60.3 + 12.5 years) completed the post-exercise assessments. Neuromuscular strength increased significantly (p < 0.05) for chest press (9.4%) and seat press (26.1%). Of the physical function variables, repeated chair rise (9.7%), 6m usual walk (6.5%), fast walk (5.9%), 400m walk (2.2%) and stair climb (3.9%) improved significantly (p ≤ 0.05). Total lean mass (0.7%) body composition and balance score (3.3%) also improved significantly. No adverse events were reported.

Conclusions
Supervised clinical exercise services provided during chemo or radiation therapy is well accepted and safe. Exercising during acute treatment results in improvement in key functional and body composition parameters thus reducing adverse effects that usually causes considerable decrement in these important health indicators.

eP389

TREATMENT OF ORAL CANCER STILL REDUCE MASTICATORY EFFECTIVENESS; WHAT ARE THE PHYSIOTHERAPEUTIC OPTIONS?

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Introduction
Masticatory performance is highly at risk in persons confronted with oral cancer.

Objectives
The aim of this study was to prospectively follow the time-course of masticatory performance in 143 patients who were treated for a malignancy that involved the oral cavity for up to 1 year following treatment. The secondary aim of this study was to follow in that period clinical and measured factors, namely dental status, maximum bite force, and maximal mouth opening to see how they relate to changes in masticatory performance.

Methods
Masticatory performance, maximum bite force, maximal mouth opening, dental status, and clinical parameters were measured in 143 patients shortly before and after treatment, after 6 and 12 months and was analyzed with linear mixed-effects models.

Results
Maximum bite force, dentition, smoking and age were all significant related to masticatory performance in patients treated for oral cancer. The amount of deterioration of masticatory performance and its recovery is related to the location of the tumor. The influence of maximum bite force on masticatory performance is related to the tumor size, the maximum mouth opening, and dental state.

Conclusions
The outcomes of this study show that there are significant factors related to masticatory performance which can be influenced by a physiotherapist. The orofacial physiotherapist is able to optimize masticatory performance, maximum bite force, and maximum mouth opening by exercises such as functional task exercises. Related to the results of this study we recommend orofacial physiotherapy in addition to the dental rehabilitation in patients treated for oral cancer.

eP390

A VARIETY OF FUNCTIONAL IMPAIRMENTS AND NEEDS FOR OCCUPATIONAL THERAPY IN JAPANESE PATIENTS WITH SKIN CANCER

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Introduction
Skin cancer affects various body sites and showed various patterns of functional impairment.

Objectives
The aims of this study are to summarize our 5-year experiences of occupational therapy for skin cancer patients and try to find a systematic approach for them.

Methods
We retrospectively reviewed patients with skin cancer who had received occupational therapy from 2011 to 2015 in Shizuoka cancer center. Impairments, activities of daily living (ADL), instrumental ADL, and participation in social activities were assessed in connection with the types of intervention needed.

Results
Among 70 consecutive patients (19 men and 51 women), median age (range) was 68 (19 - 91) years at the time of intervention. Diagnosis included 44 malignant melanomas, 9 squamous cell carcinomas, 8 Paget's diseases, 2 dermatofibrosarcoma protuberans, and 7 other rare skin cancers. Postsurgical restrictions of shoulder range of motion (14%) or accessory nerve palsy (16%) were often observed in patients undergoing axillary or cervical lymphadenectomy, respectively. Lymphedema in limbs after axillary and inguinal lymphadenectomy (50%) tended to be severe (ILS stage II or III), necessitating the combined physical therapy. In case of myectomy or amputation of limbs, we needed various types of adaptation techniques including changing hand dominance or dexterity training.

Conclusions
Dysfunction associated with skin cancer had major influence on patient's daily living. Sophisticated approach would be needed for assessment and management of these variety of dysfunction to improve their quality of life.

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PROMOTION OF CANCER REHABILITATION IN JAPAN: THE IMPACT OF THE CAREER (CANCER REHABILITATION EDUCATIONAL PROGRAM FOR REHABILITATION TEAMS) WORKSHOP PROJECT
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Introduction
The Cancer Rehabilitation Educational Program for Rehabilitation Teams (CAREER), commissioned by the Ministry of Health, Labor and Welfare of Japan, was first held in 2007. Since 2010, rehabilitation fees for cancer patients have been covered by the national health insurance system. To ensure the quality of treatment, it's essential that medical professionals take part in CAREER. We performed a total of 28 workshops from 2010 to 2013, in which a total of 5261 medical professionals participated. As a next step, the CAREER planner workshop, which is a training program for planners who plan the CAREER, was launched in 2013.

Objectives
To evaluate the impact of the CAREER workshop project after the planner workshops began.

Methods
CAREER workshops are conducted over two days of lectures, group work, practice, and demonstration. Participants in each team include a doctor, a nurse, and rehabilitation therapists from each hospital. Planner workshops are conducted over a day of lectures to plan for CAREER workshops. We analyzed demographic data of the CAREER workshop project from 2013 to 2015.

Results
We conducted a total of eight planner workshops. Participants comprised 294 planners from 44 of 47 prefectures (93.6%) in Japan. After the planner workshops, they held a total of 59 CAREER workshops (7 in 2013, 20 in 2014, and 32 in 2015) and including 6742 medical professionals.

Conclusions
The survey demonstrated that more CAREER workshops were held and had more participants after than before the planner workshops began. The CAREER workshop project may prove efficient and effective in developing quality cancer rehabilitation.

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FACTORS AFFECTING QUALITY OF LIFE AMONG KOREAN SURVIVORS WITH GASTROINTESTINAL CANCER
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Introduction
Approximately, 34% of all cancer survivors in Korea have gastrointestinal cancer. Recently, the survival rates of gastric or colorectal cancer patients have been steadily increasing up to 70% due to early cancer diagnosis and improved treatment outcomes. However, cancer survivors still have been experiencing various physical symptoms or psychological distress from cancer and its treatment, which can lower their quality of life (QoL).

Objectives
This study was conducted to investigate the factors affecting QoL among gastrointestinal cancer survivors.

Methods
The survivors with gastric or colorectal cancer who had completed their cancer treatment at a university-affiliated tertiary hospital in Seoul, Korea, were approached for the self-reported questionnaire survey. Total of 145 surveys were analyzed using multiple linear regression to identify factors affecting QoL. Quantile regression was further applied to assess the effects of selected factors on the each percentile of QoL.

Results
Economic burden ($\beta = -1.6588$, $p < .001$), distress ($\beta = -1.064$, $p = .006$), symptom ($\beta = -1.102$, $p = .021$), age ($\beta = -.181$, $p = .026$), and marital status ($\beta = .617$, $p = .044$) were identified as the predictors for the QoL among Korean survivors with gastrointestinal cancer. In the quantile regression (10%, 25%, 50%, 75%, 90%), symptom was significantly associated with lower level of QoL (10% and 25%), and cancer stage at diagnosis with higher level of QoL (90%). However, economic burden was associated with overall QoL (≥25%).

Conclusions
The interventional strategies to improve QoL among cancer survivors might be tailored based on their level of QoL and its affecting factors. The work of this research was supported by grants from National Research Foundation of Korea, 2015(NRF-2014R1A1A305386).

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ASSESSING MEASURES AND OUTCOMES RELATED TO PHYSICAL ACTIVITY AMONG AGING BREAST CANCER SURVIVORS: INCORPORATING CHAMPS PHYSICAL ACTIVITY QUESTIONNAIRES AND MOTIVATIONAL INTERVIEWING TO ENHANCE PHYSICAL ACTIVITY
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Introduction
Over 3,000,000 breast cancer survivors represent an aging US population with lifelong risk of developing comorbidities moderated by physical activity (PA). Evidence-based PA interventions among survivors may enhance function, quality of life (QOL), and longevity.

Objectives
The primary research goals were to: (1) compare PA across age; and (2) assess the effect of motivational interviewing (MI) on PA goal-achievement.

Methods
Participants (mean age 67 ± 10.3 [1-28 yrs]; mean survivorship 13 years) were assessed in the laboratory. A subset of established PA goals using MI. Participants completed CHAMPS PA questionnaires twice, at lab visit and 6 months post-visit by mail-back survey. Follow-up telephone interviews were conducted 12 months later with MI intervention participants. Double-entered quantitative data were analyzed with standard statistical methods; qualitative data were analyzed through content analysis. Using generalized linear mixed models, PA response was modeled as coming from a gamma distribution, accounting for dependencies inherent in repeated observations.

Results
From this model, about 90% of survivors have a daily Calorie expenditure between 393 and 8540 (mean 3291). Age significantly predicted the presence of moderate-

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ANTHRACYCLINE INDUCED CARDIO TOXICITY IN CHILDHOOD CANCER SURVIVORS
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Introduction
— Anthracycline-induced cardiotoxicity (AIC) is a serious adverse drug reaction limiting anthracycline use and causing substantial morbidity and mortality. —

Objectives
To determine the incidence and study the risk factors for development of late anthracycline-induced cardiotoxicity in childhood cancer survivors.

Methods
This is a retrospective study. Childhood cancer survivors registered at the After Completion of Treatment clinic (ACT) at the hospital who received anthracyclines are included in the study. Demographic and treatment details were recorded. The effect of sex, age at diagnosis of cancer, duration of monitoring with left ventricular systolic function, cumulative dose of doxorubicin, mediastinal irradiation and other chemotherapeutic drugs was studied. Cardiac function was assessed by 2D-Echocardiography. The cardiotoxicity was graded as per NCI CTCAE criteria. Descriptive analysis of categorical variables and multivariate logistic regression analysis of predictor variables was done.

Results
459 patients were included in the study. Males 76.3%, females 23.7%. Median age at presentation was 6 years. Median dose of anthracyclines was 300mg/m2. Median duration of follow up was 9.8 years. 6.8% patients developed AIC. Median duration from completion of therapy to development of AIC was 8.23 years. Doxorubicin dose more than 300mg/m2, longer duration of follow-up and vincristine based chemotherapy significantly increases cardio toxicity risk ($p < .01$).

Conclusions
Doxorubicin dose more than 300mg/m2 and combination treatment with vincristine increased the risk of AIC. As the risk of cardiotoxicity increases with longer duration of follow up, regular monitoring is advocated in childhood cancer survivors who have received anthracyclines.
intensity PA. Qualitative data provided insight into new and continuing co-morbidities and significant life events impacting PA goal achievement.

Conclusions
PA measured both quantitatively and qualitatively is an important factor potentially impacting function and QOL in cancer survivorship, particularly in an aging population. MI has potential to facilitate PA goal-setting and achievement among breast cancer survivors. CHAMPS is a reliable patient-focused tool capable of capturing PA data by interview, mail-back, or online methodologies.

eP395

STRATEGIC DIRECTIONS FOR ADOLESCENT AND YOUNG ADULT SURVIVORSHIP IN AUSTRALIA
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Introduction
Adolescents and young adults (AYAs) with cancer have high rates of relative survival, with approximately 88% of Australian AYAs (aged 15-29 years) living at least five years beyond their initial diagnosis. In recent years, focus has turned to the period following primary cancer treatment, which is characterised by multiple transitions and the emergence of a host of ongoing medical, psychosocial and healthcare delivery needs.

Objectives
To better understand and respond to these needs, CanTeen Australia undertook an AYA Survivorship Scoping Project.

Methods
This project comprised of a review of the literature and stakeholder consultations, of both health professionals and consumers, through survey and interview, with findings synthesised to extract key themes.

Results
Findings included medical late effects and elevated patient anxiety, depression and stress into survivorship, along with significant unmet needs in the areas of physical rehabilitation and social re-integration. With growing numbers of survivors, the health system response and current models of care were identified, with challenges around risk stratification, fragmentation of service delivery particularly into primary care and the community, and the impact on available health resources.

Conclusions
Recommendations from this Scoping Project included developing an integrated and collaborative approach to survivorship, an agreed national pathway, health professional guidelines and improved national data collection. Work has commenced with survivorship an important focus for the updated model of care for the National Youth Cancer Framework, providing a strategic and aspirational vision for best practice treatment and care for young cancer patients.

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CANCER SURVIVORS, A POPULATION WITH UNMET NEEDS: RETROSPECTIVE ANALYSIS FROM A SINGLE INSTITUTION
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Introduction
Advances on early detection of first malignancies, more effective treatments and aging are contributing to expressive increases in cancer survivorship over the last decades. This fact raises concerns about the unmet needs of this population, being at risk for long-term morbidity and premature mortality, as well as second malignancies (SM).

Objectives
To characterize cancer survivors (diagnosis > 10 years) health status and to relate with diagnosis, treatment modalities and pre-existing comorbidities.

Methods
Data were extracted from patients medical charts. Comorbidities prevalences were characterized and compared across groups. Acquired comorbidities, QoL and distress were related with diagnosis, treatment modalities and pre-existing comorbidities.

Results
Sample included 198 patients, 64% female, with current median age of 68. Median time since diagnosis was 15 years. 19% had previous hypertension, 12% dislipidemia, 5% diabetes. 18% were smokers, 15% alcohol consumers, 9% obese. Breast cancer (BC) (35%) and colorectal (CRC) (31%) were the most prevalent cancers followed by lymphoma (13%). Stages I-II represented 65%, stage IV 6%. 84% had surgery, 87% chemotherapy, 29% radiotherapy, 26% hormonotherapy. Relapse and SM were 7% and 9%. BC patients had significantly more osteoarticular symptoms/osteoporosis than CRC pts, in spite of being younger. Only 10% had cardiac events (half received anthracyclins). Age contributed to few neurologic events, not to cardio-pulmonary, hematologic, renal or psychiatric ones.

Conclusions
On this fit and relatively young population, although heavily treated, the only serious morbidity after treatment is osteoporosis in women, mainly on BC patients. A prospective study is planned, to improve long term follow-up.

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SUPPORTING MEN AND PARTNERS BEFORE, DURING AND AFTER PROSTATE CANCER TREATMENT
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Introduction
Prostate cancer is a common diagnosis that can have a significant impact upon both the man and his partner.

Objectives
To investigate the support needs of men and partners throughout the prostate cancer journey.

Methods
A questionnaire which explored support needs identified from the literature and focus groups was sent to 50 men who had undergone prostate cancer treatment in the last 6 years and their partners, with 31 being returned from each group.

Results
The mean age of men was 64.6 (+ 7.6) years and female partners 61.7 (+ 9.5) years. The mean time since prostate cancer diagnosis was 52 (+19.2) months, with the commonest treatment being prostatectomy (67.7%), followed by external radiotherapy (38.7%).

Men and partners were moderately satisfied with diagnosis, treatment and side effects information, with partners being more satisfied with treatment information (p=0.014). Men’s understanding of their chosen treatment’s potential side effects was generally poor. Men preferred information to be delivered at time of diagnosis, whereas partners preferred post-diagnosis (p=0.009). Men wanted more time to think about the diagnosis and treatment, whereas partners wanted an opportunity to discuss it at the time (p=0.039). Partners’ self-image was negatively affected by the cancer treatment in comparison to the men (p=0.013). Management of common side effects such as emotional changes, incontinence and erectile dysfunction was rated as ‘somewhat’ satisfactory by men and partners. Awareness of available support services was variable.

Conclusions
Men and partners may have differing educational and supportive needs throughout the prostate cancer journey that require attention and tailored management.

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A CULTURALLY ADAPTED, MULTIDISCIPLINARY PSYCHOEDUCATION PROGRAM FOR EARLY-STAGE BREAST CANCER SURVIVORS IN ASIA: A RANDOMIZED, CONTROLLED TRIAL

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Introduction
As cancer mortality rates improve in Asia, there is an increasing need to improve the transition to post-treatment survivorship care. However, culturally appropriate standardized survivorship programs are lacking in this region.

Objectives
This study aimed to evaluate the effectiveness of a psychoeducation program (PE) compared with usual care (UC) to reduce distress and symptoms in Asian breast cancer survivors who have completed adjuvant chemotherapy.

Methods
This was a randomized, controlled trial in 72 Asian early-stage breast cancer survivors who were randomized into either the PE (n = 34) or the UC (n = 38) arms. Participants in the PE arm underwent a weekly multidisciplinary psychoeducation program, delivered in a group format over 3 weeks, based on current recommendations from the US Institute of Medicine, coupled with cultural adaptation. Both arms were assessed at baseline and 2 months post-intervention. Effect sizes were calculated using Cohen’s d.

Results
The mean age ± SD was 53.0 ± 8.9 years, with majority being Chinese (84.7%). At baseline, clinical characteristics and outcome measures were well balanced in both arms. Comparing to UC, there was a significant lower levels of physical symptom distress (d= 0.76, p = 0.01) and fatigue (d= 0.49, p = 0.04). There was also a trend towards less appetite loss (d= 0.46, p = 0.06), less constipation (d= 0.45, p = 0.06) and activity level improvement (d= 0.37, p = 0.14) in the PE arm.

Conclusions
A culturally adapted, multidisciplinary psychoeducation program was effective to reduce physical distress and symptoms in Asian breast cancer survivors.
Introduction

Many haematological malignancy survivors report long-term post-treatment physiological and psychosocial effects. Objectives

This study examined cancer nurses’ perception of their role, confidence levels, practices and barriers in relation to survivorship care provision for patients with haematological malignancies.

Methods

Approximately 1300 cancer nurses were invited to participate in a survey. The survey was distributed to all cancer nurses at a Queensland tertiary cancer centre and via email through two Australian professional cancer nursing bodies.

Results

In total, 423 cancer nurses (33%) completed the survey. The majority of participants agreed that all survivorship interventions included in the survey should be within their role. Nurses were least confident in discussing fertility (M=5.93, SD=2.66), employment and financial issues with patients (M=6.19, SD=2.66) and discussing information about identifying signs of cancer recurrence (M=6.43, SD=2.69), on a 11-point scale from 0 to 10 with higher scores indicating greater confidence. The least frequently performed interventions included discussing fertility, intimacy and sexuality issues, and communicating survivorship care with the patient’s primary care providers, with over 60% of participants reporting not performing these interventions often. The most significant barriers perceived by participants were lack of dedicated end-of-treatment consultation (M=2.62, SD=1.13), time (M=2.58, SD=0.94), and an appropriate physical location (M=2.21, SD=1.01), on a 5-point scale (0=not at all; 4=a great deal).

Conclusions

The strong support from nurses for their role in survivorship care highlights opportunities that have not yet been adequately developed. Barriers identified in this survey should be considered in the design of future survivorship care models.

eP400

HOT FLASHES AMONG TAIWANESE WOMEN WITH BREAST CANCER DURING THEIR FIRST YEAR OF ENDOCRINE THERAPY: OCCURRENCE RATE, FREQUENCY, SEVERITY AND IMPACT ON DAILY LIFE

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Asian women were reported to be younger when diagnosed with breast cancer. Little is known about the hot flashes experience in Asian breast cancer survivors receiving endocrine therapy (ET).

Objectives

To understand the experience of hot flashes and its impact on daily life in Taiwanese breast cancer women receiving ET.

Methods

One hundred and nine pre-menopausal breast cancer women scheduled to receive long-term ET participated in the study. Participants were measured at five time points including two baseline points (before chemotherapy and end of chemotherapy/pre-endocrine therapy) and 3, 6, and 12 months after initiation of ET. A 3-day diary and the Hot Flash Related Daily Interference Scale were used to measure the hot flashes experiences. Descriptive statistics and the GEE were applied to analyze the data.

Results

The occurrence of hot flashes changed significantly over time with 9.3% before chemotherapy and drastically increased to 40.9% at the end of chemotherapy. At the 3rd month after endocrine therapy, the occurrence rate was further increased to 54.9%. For those with hot flashes, the number of episodes ranged from 1 to 40 per day, with the frequency being higher after ET. The severity of hot flashes was mild to moderate (Mean = 2.88 to 3.83, possible range = 0-10). Sleep was the most interfered aspect of daily life (Mean = 2.07 to 2.61, possible range = 0-10).

Conclusions

Both chemotherapy and ET contributed to the occurrence of hot flashes. Hot flashes significantly interfered with breast cancer women’s sleep. Interventions for relieving hot flashes related distress are needed.

eP401

INCORPORATION OF LIFE EXPECTANCY ESTIMATES IN THE TREATMENT OF PALLIATIVE CARE PATIENTS RECEIVING RADIOTHERAPY: TREATMENT APPROACHES IN LIGHT OF INCOMPLETE PROGNOSTIC MODELS

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Introduction

Physician estimates of patients' survival times have historically been inaccurate. Several prognostic models have been created to aid physicians in providing more accurate estimates. Emerging evidence that prognosis may also
 depend on treatment has rendered most predictive models of survival incomplete.

**Objectives**
Given evidence-based treatment options in a wide variety of patient populations, radiation oncologists need no longer rely so heavily on the precise prognostic capacity of survival models. The aim of this study was to investigate and discuss evidence-based practices in light of incomplete survival models.

**Methods**
A literature search was conducted in Ovid Medline, OldMedline, Embase, Embase Classic, and Cochrane Central Register of Controlled Trials using relevant subject headings and keywords such as: "life expectancy estimates," "palliative care," "prognostic models," and "radiotherapy."

**Results**
Relevant articles were extracted and discussed. Patients of different age demographics and survival prognoses benefit from palliative radiation treatment. For uncomplicated bone metastases, a single 8 Gy fraction of radiation is equally effective for palliation regardless of whether a patient will have a short or long duration of survival. Certain patients with complicated bone metastases may benefit from multiple fraction radiotherapy. There is no difference in neurologic function improvement or overall survival with the use of altered whole brain dose fractionation schedules when compared with standard fractionation schedules (30 Gy in ten fractions or 20 Gy in five fractions).

**Conclusions**
Radiation oncologists need not rely as heavily on survival estimates in guiding their treatment decisions. However, further research is required to incorporate treatment factors in future survival prediction models.

eP402

**TRANSLATION AND VALIDATION OF TOOLS FOR ASSESSING HEALTH-RELATED QUALITY OF LIFE AND MALE SEXUAL FUNCTION IN HONG KONG CHINESE PATIENTS DURING TRANSITIONAL CANCER SURVIVORSHIP**

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**Introduction**
Previous studies have found that cancer survivors are at higher risk of impaired sexual function during the period of transitional survivorship. Sexual dysfunction has negative impacts on health-related quality of life (HRQOL). However, there is no Chinese version of tools for assessing HRQOL and male sexual function for survivors in transitional cancer survivorship.

**Objectives**
To translate and adapt the Quality of Life in Adult Cancer Survivors (QLACS) and Expanded Prostate Cancer Index Composite (EPIC) sexual domain into Chinese and to establish their psychometric properties in Hong Kong Chinese cancer survivors.

**Methods**
The Chinese version of QLACS and EPIC sexual domain were administered to 289 cancer survivors with 70 male subjects to test their psychometric properties.

**Results**
The internal consistencies of the Chinese QLACS and EPIC sexual domain were good, ranging from 0.71 to 0.96 and 0.96 respectively. Test-retest reliability was also satisfactory with intra-class correlation coefficients of 0.79 and 0.82 for QLACS, and 0.82 for EPIC sexual domain. Convergent and divergent validities indicated that the Chinese QLACS and EPIC sexual domain measured the construct of HRQOL and male sexual function. Exploratory factor analysis found the items in the Chinese EPIC sexual domain clustered into 2 subscales as the original version, but not the case for the Chinese QLACS.

**Conclusions**
The Chinese QLACS and EPIC sexual domain are reliable and valid instruments to assess HRQOL and male sexual function in Chinese cancer survivors, so as to identify those in need of appropriate counseling or other forms of intervention.

**eP403**

**A BREAK AWAY FROM CANCER: THE IMPACT OF A SHORT HOLIDAY**

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**Introduction**
The psychosocial impact of holiday-taking is often associated with a sense of positivity, rest and stress reduction. For people diagnosed with cancer, these aspects are often difficult to maintain due to health, financial and time constraints. Cancer Council Victoria (CCV) offers the Holiday Break Program (HBP) which provides a free, one-off short break away for eligible patients and their families. The program relies on the generosity of property owners who donate time at their holiday homes.

**Objectives**
To explore the experience of the HBP from the perspective of both cancer patient and property owner.

**Methods**
Feedback received from holiday recipients was collated over two years. Property owners were asked to complete a feedback survey. Frequency counts and content analysis were used to analyse feedback.

**Results**
Analysis of feedback forms (n=14), thankyou cards to property owners (n=29) or letters to CCV (n=13) revealed three key themes:
1. family time away from hospital
2. gratitude for opportunity
3. resting and relaxing in a comfortable environment

Of the 52 property owners 50% responded to the survey. Over 95% rated their experience as positive.
Participants included Australian adult cancer survivors who completed primary cancer treatment 6-months before enrolment, and their partners, identifying unmet psychosexual needs. Participants registered and completed consent, medical, and patient-reported outcome measures online. Measures included: PROMIS Global Sexual Satisfaction Scale (GSSS); Extent of sexual self-disclosure (SSD) between partners.

Results
Between 12/2014 and 10/2015, 79 participants were recruited, most (n=67, 85%) with a cancer diagnosis. The majority were women (n=51, 65%) and 71% were aged between 50-69 (range 20 to 70) years. The most common cancers were breast (n=33 (70% of women with cancer)) and prostate (n=17, 85% of men with cancer). Almost all (96%) reported heterosexual orientation and being in a relationship (91%) with the majority (85%) participating without partner involvement. Sexual satisfaction on the GSSS was low (mean score 15.5 (SD 7.4)). Self-disclosure on the SSD (mean T-score 45.8 (SD 21.9)), was lower than general cancer populations.

Conclusions
Australian cancer survivors and their partners interested in an online intervention to address intimacy and sexual unmet needs have low sexual satisfaction and lower rates of sexual self disclosure than general cancer populations. These outcomes reflect the need for psycho-sexual interventions that are available and accessible.
and Depression Scale (HADS) Sexual Self-Disclosure Questionnaire (SSCQ).

**Results**

A total of 34 participants completed T1 and T2 questionnaires 12/2014 to 01/2016, see Table 1 for group and key characteristics. Table 2 summarises module prescription and completion. Mean PRO scores were similar across groups at T1 and T2.

Table 1 Treatment group and baseline characteristics

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<tr>
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Table 2 Median number Rekindle modules prescribed and completed

- Prescribed: Rekindle n=13, Rekindle Plus n=13
- Completed within 10 weeks: Rekindle n=13, Rekindle Plus n=13
- Proportion completed: 0.29, 0.14

**Conclusions**

Results indicate feasibility of collecting longitudinal PRO online. Prescribed modules and tailoring suggest participants reported multiple unmet sexual needs. Low rates of intervention completion warrant trial process changes.

**eP406**

PREDICTORS OF SUPPORTIVE CARE NEEDS FOR LONG-TERM BREAST CANCER SURVIVORS

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**Introduction**

Care needs of breast cancer survivors involve various aspects; however, women recruited were varied in survival stage and across time period from 1 year to more than 5 years in previous studies. Some studies also included women with recurrence or metastatic stage. Limited studies focused on the care needs for long-term healthy survivors.

**Objectives**

To understand the care needs of long-term breast cancer survivors and identify related factors that influence these needs.

**Methods**

A convenience sampling and correlational study design was used. Women aged at least 20 years old, had been diagnosed with breast cancer five years previously, reported no active cancer recurrence, and had no history of mental illness were recruited. A questionnaire measuring cancer survivors’ unmet needs, and depressive symptoms was given after women signed an informed consent. Binary logistic regression was used to examine what socio-demographic, medical, and psychosocial variables were associated with different aspects unmet care needs.

**Results**

There were 192 women participating in our study. The domain of highest unmet needs was existential survivorship. And the most frequently endorsed unmet need was “ongoing case manager”. Fear of recurrence was associated with women having existential survivorship need (OR=1.21), comprehensive cancer care need (OR=1.14), and quality of life need (OR=1.14).

**Conclusions**

This study demonstrated that even several years after diagnosis and completing of therapy, a significant proportion of these women continue to report unmet needs across different aspects. And evaluating women’s fear of recurrence level to identify high risk caseness of having unmet needs among long-term survivors was important.

**eP407**

THE SELF-REPORTED PHYSICAL HEALTH, MENTAL HEALTH AND PARTICIPATION IN HEALTH-PROMOTING BEHAVIOURS OF RURAL AND URBAN SOUTH AUSTRALIAN ADULTS WITH AND WITHOUT A HISTORY OF CANCER

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**Introduction**

Rural people with cancer experience additional stressors and are at risk of poorer treatment outcomes than their urban counterparts. However, little is known about their experiences post-treatment.

**Objectives**

To determine whether self-reported health, mental health and health-promoting behaviours differ between rural and urban adults with or without a history of cancer.

**Methods**

Weighted, representative data were collected via the South Australian Monitoring and Surveillance System between 1 January 2010 and 1 June 2015 (N= 36 442).

**Results**

7.2% of participants reported a history of cancer. After controlling for year, gender, age group, education, income and socioeconomic status, rural survivors were more likely than rural cancer-free controls to experience poor self-rated health, comorbidities (diabetes, CVD, COPD, arthritis, osteoporosis), lower life-satisfaction and the inability to work/carry out normal duties. Urban cancer survivors were
more likely to smoke and report suicidal ideation and high distress than rural survivors. When the analyses were repeated without the aforementioned controls, rural survivors were found to be more likely than urban survivors to have diabetes, be overweight and at greater long-term risk of alcohol-related harm, but to have lower distress and greater trust in their communities.

Conclusions
Living in a rural setting is associated with lower rates of smoking, suicidal ideation and distress among cancer survivors. Interventions for rural cancer survivors should pay attention to addressing obesity and alcohol use, and capitalise on community trust.

eP408

GENETIC TESTING FOR CHILDHOOD CANCER SURVIVORS' RISK OF LATE EFFECTS: CONSUMER UNDERSTANDING, ACCEPTANCE AND WILLINGNESS-TO-PAY
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Introduction
Genetic technology to determine cancer survivors’ risk of developing late effects will be increasingly utilized in cancer care.

Objectives
To explore the extent to which childhood cancer survivors (CCS) and their families understand and accept genetic testing for late effects, and its’ implications.

Methods
Stage 1 involved a pilot study (N=24), which informed the development of the Stage 2 interview schedule. In Stage 2, 20 CCS (55% female; mean age 26.0 (18-39), SD= 0.80) and 20 parents of CCS (55% male; mean age of child survivor 14.2 (10-19), SD=0.79) completed a semi-structured interview (response rate 40%). Interviews were transcribed verbatim and analyzed using NVivo 10.0 software.

Results
Most participants (95%) are willing to undergo genetic testing to determine their risk of late effects, and over two-thirds reported it would be acceptable to pay up to AUD5000 for the service. The majority of participants reported it would be acceptable if results were returned up to six months after testing, and if it were offered after treatment or when the survivor reached adulthood. Participants rated how seven potential benefits and seven potential concerns would factor into their uptake decision-making, whereby decisional balance ratios were derived. Ratios indicated a positive decisional balance amongst survivors (M = 0.5, SD = 0.38) and parents (M = 0.5, SD = 0.39), with leaning towards testing uptake.

Conclusions
Survivors and parents endorse genetic testing for risk of late effects. Perceived benefits outweighed negatives, and the majority of participants would be willing to pay, and wait, for testing.

eP409

ADULT CANCER SURVIVORS’ EXPERIENCES OF HEALTHCARE INTERACTIONS AND UNMET NEEDS IN HEALTHCARE SERVICES: A QUALITATIVE SYSTEMATIC REVIEW
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Introduction
The increased cancer survival rate has resulted in a focus on the health care needs of cancer survivors.

Objectives
This systematic review synthesised the experiences of disease free adult cancer survivors interacting with health care practitioners and the healthcare system and their unmet needs.

Methods
A three-step search strategy was utilised to find published and unpublished studies in English from 2003 to 2013. Papers selected for retrieval were assessed by two independent reviewers for methodological validity.

Results
3991 articles were identified with 10 articles meeting the inclusion criteria and methodological quality. Five synthesised findings were derived: 1) Cancer survivors require comprehensive care co-ordination and deficits in this may provoke anxiety and a heightened fear of recurrence. 2) Cancer survivors’ communication with their health practitioners may be affected by practitioner and system characteristics. 3) Cancer survivors may feel isolated if there is inadequate psychological and social support including preparation for the transition at the end of treatment. 4) Cancer survivors may experience increased distress if they are not provided with adequate information in a timely manner for themselves, their family and partners about issues such as the late effects of treatment. 5) Cancer survivors require information and health practitioner assistance in areas such as physical treatment, body image, and wellness / lifestyle change needs.

Conclusions
Patient-centred care consisting of individual and system issues must be placed at the cornerstone of the delivery of healthcare services to cancer survivors.

eP410

BARRIERS AND ENABLERS TO SURVIVORSHIP CARE AT THE STATEWIDE LEVEL: A SOUTH AUSTRALIAN PERSPECTIVE
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### Introduction
South Australian Cancer Service (SACS) is leading the development of a Statewide Survivorship Framework (SSF). Successful implementation is dependent upon the ability to effect sustainable, evidence-based practice change, acceptable to patients and health care providers.

### Objectives
To identify barriers and enablers for developing and implementing a SSF that delivers holistic, consumer-centred care in diverse settings.

### Methods
Models of care from the literature, alongside knowledge and experiences of survivorship care locally, nationally and internationally were explored. A one day workshop in June 2015 was conducted and ongoing input was attained through small group workshops, individual consultations and presentations at statewide meetings.

### Results
Sixty clinicians, consumers and stakeholders participated in consultation and identified the following:

#### Enablers:
1. Positive collaborations and inter-relationships between cancer stakeholders
2. Links with locally based survivorship projects
3. Inclusion in Statewide Cancer Control Plan 2016 - 2020 and Optimal Care Pathways
4. Stakeholder willingness to explore innovative workforce models
5. Optimising health technology

#### Barriers:
1. Differing views on the term survivor, and when survivorship care commences
2. Inadequate communication and coordination between services and settings
3. Competing priorities both in acute and primary care settings
4. Workforce constraints and lack of sustainable funding models
5. Engaging with Primary Health Care Providers (particularly General Practitioners (GPs))
6. Cultural appropriateness of services and resources

### Conclusions
Inclusive and robust discussions during consultations effectively identified key enablers and barriers to inform the framework. Consultation to reach additional stakeholders with more limited access (ie GPs, ethnically diverse groups) is ongoing.

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**eP411**

**SOUTH AUSTRALIAN STATEWIDE SURVIVORSHIP IMPLEMENTATION PILOTS**

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**Introduction**
South Australian Cancer Service (SACS) has embarked on the development and implementation of a Statewide Survivorship Framework (SSF). The SSF will outline an agreed minimum standard of care that cancer survivors should receive in South Australia (SA).

**Objectives**
1. Establish pilot implementation initiatives within all SA Local Health Networks (LHNs)
2. Introduce standardised tools and templates within existing services and programs and evaluate their impact
3. Refine the tools and templates whilst embedding into current practice

**Methods**
Expression of interest was sought from all Local Health Networks (LHNs) to identify champions to pilot implementation of key components of the SSF including treatment summary, needs assessment and care plan. A continuous practice improvement methodology was utilised to facilitate the implementation and evaluation process. Champions were invited to meet regularly to compare experiences and outcomes. Data collected included logistical information relating to value, time and consistency; impact on services, workforce and knowledge; and consumer perceptions.

**Results**
One Champion (Nurse Practitioner (NP) or NP Candidate), was identified at each of the five SA LHNs and teamed with a senior medical oncologist. Implementation varied between sites either directly replacing local tools or re-orientating clinics and formalising processes. Pilots commenced on 1 February 2016 and are due to complete Phase 1 in April 2016. Preliminary findings indicate implementation of key
components is feasible within practice. Resource lists and prompts/strategies would further enhance the generation of individualised, consumer identified care plans.

**Conclusions**

Details of framework uptake and outcomes across the pilot sites will be provided at the time of presentation.

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**eP412**

**HEALTH ECONOMIC CHALLENGES AND OPPORTUNITIES FOR SURVIVORSHIP: LEARNINGS FROM THE SOUTH AUSTRALIAN SURVIVORSHIP PROJECT**

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**Introduction**

South Australian Cancer Service (SACS) in collaboration with key stakeholders is developing a Statewide Survivorship Framework (SSF) outlining the minimum agreed standard of care all cancer survivors will receive.

**Objectives**

To determine the most appropriate measures and indicators for economic evaluation of the SSF.

**Methods**

An assessment of the evaluation needs (including key challenges) for the SSF was undertaken using standard health economic theory and a review of published evaluations of survivorship care.

**Results**

Economic evaluation of survivorship care is complex; a one-size fits all model is not feasible. The literature revealed limited evaluations of survivorship care which make determining appropriate comparators, outcomes of interest, including measures and variations, difficult. Constructing an evaluation of the SSF that takes into account available data and the specific context as well as underlying issues is recommended. Challenges include:

- Understanding current survivorship care and outcomes
- Assessing resource use associated with the SSF
- Assessing the value associated with outcomes
- Whether there are sufficient links between survivorship care and long term clinical outcomes to allow the development of economic models
- Understanding the acceptability of the SSF to providers

Two key recommendations:

- Construct an historical cohort to measure the costs associated with survivorship care;
- Explore the value of outcomes using a preference based study.

**Conclusions**

A paucity of high quality literature on health economics and survivorship proved challenging. Building economic measures into the SSF from the outset will assist in establishing baseline data and effectively evaluate the impact of changes to service delivery over time.

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**eP413**

**INFLUENCES ON THE FACTORS OF FERTILITY DESIRES AFTER REPRODUCTIVE-AGE WOMEN WITH BREAST CANCER UNDERGOING CHEMOTHERAPY**

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**Introduction**

Although the recurrence rates and the risk of death in people with breast cancer have successfully reduced, many studies have indicated an increased association between infertility and cancer-related treatments.

**Objectives**

To understand the situation of fertility desires and symptoms, and further to explore the influence on the factors of fertility desires, after reproductive-age women with breast cancer underwent chemotherapy.

**Methods**

It was a cross-sectional study. The data were collected in 2011-2014 from the reproductive-age female (20-49 years old) who were diagnosed breast cancer in a medical center. The structured questionnaire contained sociodemographic data, MD Anderson Symptom Inventory-Taiwan version and Reproductive Intention Inventory.

**Results**

178 participants were recruited to this study. Their average age was 44 years (22-53, SD= 5.2). The time of suffering disease was an average of 2.8 years (0.8-4.88, SD= 1.1). Fatigue and sleep problems were showed the most serious, in all symptoms. The score of reproductive protection and pregnancy inclination was 21.1 (SD = 31.6) and 8.6 (SD = 22.3) from the Willingness Percentage Inventory. Linear regression analysis showed younger participants had more willing to protect reproduction (β = -1.8, p <0.01) and to conceive (β = -1.3, p <0.01). If the sleep problems were more severe, the willingness of reproductive protection would be decreased (β = -1.8, p = 0.01).

**Conclusions**

Almost one fifth of reproductive-age women with breast cancer were willing to protect their fertility, especially in the young women. Therefore, fatigue and sleep problems should early deal with for increasing the willingness of reproduction protection.

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**eP414**

**THE DECISION-MAKING PROCESS OF PREGNANCY AMONG REPRODUCTIVE-AGE WOMEN WITH CANCER IN TAIWAN**

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Introduction
Previous studies indicated female cancer patients suffered infertility after cancer-related treatment. With the rapid progress of fertility science, people have diversity and uncertainty choices on pregnancy.

Objectives
The purpose of the study was to understand the decision-making process of pregnancy among reproductive-age women with cancer in Taiwan.

Methods
We applied grounded theory to guide the qualitative exploratory study. Data were collected through in-depth interviews with 18 female with cancer (16 patients with breast cancer, 1 patient with nasopharyngeal carcinoma, and 1 patient with ovarian cancer). Verbatim transcriptions were analyzed using constant comparative analysis and methods of open, axial, and selective coding.

Results
The core category that describes the decision-making process of pregnancy among reproductive-age women with cancer is “searching for the balance of life and creating the value of life”. The decision process can be divided into three phases: (1) Before diagnosis (pre-decision): women were mainly influenced by pre-existing idea about needs for owing children; (2) During diagnosis and treatment (in-decision): female cancer patients focused on risk perception about disease prognosis and infertility and struggling for self-living; (3) After treatment (post-decision): In order to return to life, patients would maintain well-being, change elasticity of demand and reorientate role in new life.

Conclusions
This study found that female cancer patients had pre-existing ideas about pregnancy before diagnosis. Health providers should pay attention to understand their needs for owing children, to promote the perception of disease prognosis and infertility, and to help them complete the risk assessment about fertility preservation and pregnant planning.

Objectives
The aims of this study were to explore the relevance of depression, leisure needs, and leisure constrains among the post-mastectomy breast cancer patients.

Methods
A cross-sectional design was used. One hundred and six participants completed the study. The questionnaires included demographic variables, the hospital anxiety and depression scale, leisure needs scale, and leisure constraints scale. The data collected and analyzed by descriptive statistics, t-test, and ANOVA.

Results
There were 106 patients included in this study. The mean age was 52.4 (standard deviation 9.17) and the mean time from initial diagnosis was about 38 months. We divided the time from initial diagnosis to two groups, equal or longer than 36 months (≧36m) and less than 36 months (<36m). The group (≧36m) revealed the leisure needs were higher than the other one (M<36m=87.4; M>36m=80.6, p<0.05), especially in social leisure and leisure schedule. In addition, the depression of the less 36 months group were worsen than another group (M<36m=5.92; M>36m=4.46, p<0.05). There were no significant in leisure constraints between two groups.

Conclusions
Most post-mastectomy breast cancer patients need the leisure activities, particularly survivors. We must to provide developmental designs for health policies to increase opportunities in leisure activities and suggest various types of activities to increase participation.

eP416
AN EXPLORATORY STUDY OF REIKI EXPERIENCES IN WOMEN WHO HAVE CANCER
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Introduction
Women cancer survivors experience fatigue, pain, depression, lowered self-esteem and loss of functional role. Many will use complementary therapies to manage symptoms or promote well-being, despite strong evidence.

Objectives
This study aimed to identify the perceptions and experiences of Reiki, an energy-based natural therapy and to identify appropriate outcome measures.

Methods
An exploratory design was used to encourage women to talk about their experiences with Reiki and to capture their perceptions in their own words. Semi-structured interviews were conducted with 10 women and analysed using Framework Analysis.

Results
The findings were split into four themes: Views and understanding prior to receiving Reiki, Experiences during
Reiki. Participants described body sensations relating to a movement of energy with feelings of emotional release; feelings of inner peace and relaxation; a sense of being cared for; the ability to relax at home by thinking about Reiki; experiencing a sense of hope and improved self-confidence. They reported clearing their minds and forgetting about their anxiety. Perceived physical benefits included pain relief, improved sleep and increased energy levels. Emotional benefits included feelings of wellness, a sense of calm and reduced depression. In some cases these benefits lasted up to a week.

Conclusions
Physical, emotional and well-being benefits were identified. Measurement instruments that capture sensations such as ‘energy release’ and ‘release of emotional strain’ are proposed for intervention studies to quantify the extent of benefits of Reiki as reported in this foundational original study.

eP417

RETURN TO WORK AFTER CANCER – A SYSTEMATIC LITERATURE REVIEW COMPARING CANCER AND NON-CANCER SETTINGS.
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Methods
Six electronic bibliographic databases were searched: MEDLINE (OvidSP), PsychINFO (OvidSP), CINAHL (EBSCO), SCOPUS, Cochrane Library and Web of Science and reference lists of previous trials, systematic reviews and meta-analyses were examined. Selection criteria included: (a) intervention trial and (b) outcomes related to employment. Two sets of data were identified representing cancer and non-cancer settings.

Results
Initial database searches yielded 14254 results. Titles and abstracts of 14229 records were screened for possible inclusion against the eligibility criteria, resulting in 26 full-texts being retrieved for further assessment. Of the full-texts retrieved 4 applied to cancers and 22 to non-cancer conditions. Data were extracted and the study quality assessed. There was only one randomised study in cancer (16 in non-cancer setting). Most cancer studies were small size. While some interventions appeared efficacious, the quality of the studies preclude firm recommendations regarding optimal approach to RTW in cancer. There were no studies focusing on ethnically or socioeconomically diverse populations. Health economic data were limited.

Conclusions
There is a need for a strategic, collaborative approach to broaden the existing evidence base on improving RTW after cancer.

eP418

DYADIC INVOLVEMENT IN DECISION MAKING FOR RECEIVING BREAST RECONSTRUCTION: BODY IMAGE AND DECISION REGRET OF BREAST CANCER SURVIVORS
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Introduction
Women still feel incomplete after breast reconstructive surgery after mastectomy. Couple-based interventions have been suggested for improving partner relationship. We suggest that the more dyadic involvement in decision making for breast reconstruction; better body image and less decision regret report by women post breast reconstructive surgery.

Objectives
This study examines the relationship between dyadic involvement in decision making for receiving breast reconstruction and women’s body image as well as decision regret post breast reconstructive surgery.

Methods
A convenience sampling with correlational study design was used. Women at least 20 years old, having partners were recruited. The “Decision-Making Process regarding Breast Reconstruction Scale”, “Body Image Scale”, and “Decision Regret Scale” are used to evaluate women’s decision involvement, body image and decision regret. Women’s partners are also invited to evaluate their involvement in decision making for women’s breast reconstruction. Linear regression is used to examine the predictors associated with women’s body image and decision regret.

Results
After analyzing 44 couples, the preliminary results showed women’s involvement was related to their body image (r=-.325, p=0.032) and decision regret (r=-.641, p=.000). Additionally, partners’ involvement was not related to women’s body image, however, this factor was related to women’s post-decision regret (r=-.451, p=.002).
Conclusions
The more dyadic involvement in the decision-making process, the more desirable body image and degree of post-decision regret will be. Health care providers should provide all possible medical information regarding partner participation in the reconstructive surgery decision-making process so as to obtain optimal outcomes.

eP419
PREDICTORS OF RETURN TO WORK 3 YEARS AFTER BREAST CANCER IN A PROSPECTIVE COHORT STUDY
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Introduction
For cancer survivors return to work underlines return to normal activities, social recovery and a positive step towards an improved quality of life, as well as rehabilitation after treatment. However, to date, there have been any researches that have explored which factors before treatment, during treatment, and after treatment that patients have affect return to work after 3 years after diagnosis.

Objectives
The purpose of the study was to examine the factors increasing breast cancer survivors’ likelihood of returning to work before, during, and after treatment.

Methods
A prospective cohort study was conducted in the National Cancer Center in Korea. A total of 299 women diagnosed with breast cancer agreed with disease stages I–III to participate. We measured health-related quality of life (HRQOL) and practicing exercise at baseline, 12 months, and 2 years after diagnosis. We assessed working status at 4 time points over the course of 3 years: baseline, 12 months, and 24 months after, and 36 months after.

Results
Higher education, regular endurance exercise, lower appetite loss, lower fatigue severity, no pregnant experience during last year, and higher physical functioning, and positive breast body image, and higher existential well-being increased the likelihood of returning to work after treatment in the final model considering all variables that were significant before, during, and after the treatment model.

Conclusions
Practicing at least moderate-intensity physical activity and improving functioning and symptoms in health-related quality of life is essential for successful return to work after breast cancer.

eP420
PSYCHOMETRIC TESTING OF THE WORLD

HEALTH ORGANIZATION’S DISABILITY ASSESSMENT SCALE II (WHO-DAS II) IN HEAD AND NECK CANCER SURVIVORS IN TAIWAN
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Introduction
Survivors with head and neck cancer who undergone therapy might have the increased risk of disability. A validated assessment tool is particularly needed in clinical settings.

Objectives
The purposes of the study were to (1) examine the psychometric properties of the 36-item WHO-DAS II; (2) assess the disability of head and neck cancer survivors in Taiwan.

Methods
A total of 260 survivors were completed the active treatment and recruited in a medical center in northern Taiwan. The assessment tools were: (1) demographic and disease background information; (2) WHO-DAS II; (3) University of Washington Quality of Life (UWQOL); (3) Symptom Severity Scale (SSS); (4) Hospital Anxiety and Depression Scale (HADS). The data was analyzed by t-test, ANOVA, Pearson’s correlation, reliability, and confirmatory factor analysis.

Results
The results showed that (1) the WHO-DAS II has satisfactory reliability, the overall internal consistency (Cronbach’s alpha) was 0.95 with values of 0.88, 0.87, 0.75, 0.88, 0.95, and 0.90 for cognition, mobility, self-care, getting along, life activities (household and work) and participation subscale, respectively; (2) six clearly identified factors provided acceptable model fit (TLI=0.70, CFI=0.72); (3) satisfactory construct validity was theoretically correlated to quality of life, symptom, anxiety and depression. (4) mean WHO-DAS II score was 8.0 (SD=12.8) and the most severe limitation was reported in participation to social situation (mean=14.0, SD=20.2).

Conclusions
These results revealed that the WHO-DAS II was an effective tool with satisfactory psychometric properties in clinical settings. Further study could provide more support and intervention to reduce the disability on head and neck cancer patients.

eP421
IMPACT OF HEARING LOSS AND TINNITUS IN CANCER SURVIVORS WHO RECEIVED NEUROTOXIC CHEMOTHERAPY (CTX)
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Introduction
Research on hearing loss associated with neurotoxic CTX has focused on pediatric patients. In adults, a limited amount of work has reported on hearing loss associated with the administration of platinum compounds in patients with head and neck or testicular cancer. Recent estimates suggest that 20% to 40% of these patients report hearing loss. While the literature on hearing loss is limited, research on tinnitus in cancer survivors is almost non-existent. In patients with testicular cancer, 22% to 25% of survivors reported tinnitus. Additional research is warranted on the impact of hearing loss and tinnitus in cancer survivors who received neurotoxic CTX.

Objectives
Evaluate for differences in demographic and clinical characteristics, symptoms, and quality of life (QOL) outcomes in survivors who received neurotoxic CTX and did and did not develop auditory toxicity (i.e., hearing loss and tinnitus).

Methods
Survivors who received a platinum and/or a taxane compound completed self-report questionnaires about the neurotoxic effects of CTX including hearing loss and tinnitus, symptoms, and QOL.

Results
Of the 121 survivors evaluated, 57 did not have auditory toxicity and 64 reported both hearing loss and tinnitus. Survivors with auditory toxicity had a higher level of comorbidity and a poorer functional status. Survivors with auditory toxicity reported a higher level of depressive symptoms and a poorer QOL. No between group differences in CTX regimens or doses of CTX were found.

Conclusions
A significant proportion of survivors experience auditory toxicity from neurotoxic CTX. This neurotoxicity results in clinically meaningful decrements in QOL.

Our educational training provides information regarding cancer-related legal and practical issues in the workplace and describes the different needs of individuals along the continuum of care. Laws that provide protection against discrimination, access to reasonable accommodations, and disability insurance are key topics. Attendees from other countries can integrate similar programs into their healthcare education.

Methods
The training provides healthcare professionals with resources to become comfortable discussing work with patients and to effectively navigate patients to appropriate information and resources. The training covers legal protections and practical strategies for working during treatment, taking time off, disclosing a diagnosis, managing schedules and side effects at work.

Results
Our attendees learn to navigate patients and educate others regarding the unique employment issues faced by those coping with cancer. 99.5% of healthcare professional attendees stated they would recommend this training to others. 98% said the information can be applied to daily patient interactions, and 97% rated the overall usefulness of the training as good or excellent.

Conclusions
Healthcare professionals are uniquely positioned to navigate patients through employment issues, therefore, it is critical for professionals to receive training on these issues.

eP423
SUPPORTED SELF-MANAGEMENT AS A SURVIVORSHIP INTERVENTION: A PHASE I/II STUDY WITH PATIENTS RECEIVING COLORECTAL CANCER TREATMENT IN NEW ZEALAND
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Introduction
Supported self-management intervention in cancer care incorporates self-assessment surveys, guided interviews/sessions, and care plans to empower people to better manage survivorship transitions. The Flinders Program, as a supported self-management intervention, was delivered one-on-one in a standardised yet tailored format by accredited practitioners.

Objectives
Phase I aimed to qualitatively explore cancer treatment impacts and management strategies with colorectal cancer survivors. This cohort was chosen because NZ has the highest rate of colorectal cancer in the world, research is underfunded considering relative disease burden, and there is an unequal burden on mortality by ethnicity. Phase II aimed to pilot recruitment, randomisation, intervention and assessment in cancer clinics at Wellington Hospital.

Methods
Phase I gauged the perceived acceptability of The Flinders Program with a vignette. Phase II piloted the intervention using a 2-arm pre- post-assessment design to inform intervention acceptability, feasibility and utility. Process
evaluation explored enablers/barriers while distress, resilience, self-management competence and quality of life outcomes were measured.

**Results**

Phase I thematic analyses indicated acceptability of the approach and the phase II pilot (n=27) indicated feasibility integrating the intervention with clinical flow. RE-AIM structured results indicated the need for further research. Clinically significant effect sizes could not be generated from this small pilot study.

**Conclusions**

Supported self-management intervention is a standardised, yet tailored, person-centred approach and set of tools that can be delivered by accredited clinicians, NGO partners or lay navigators to enhance delivery of survivorship care. This phase III intervention study informed development of a fidelity-improved, resource-efficient, scaled up phase III survivorship clinical trial.

**eP424**

**PRE-DIAGNOSIS BODY MASS INDEX AND RISK OF SECONDARY PRIMARY CANCER IN MALE CANCER SURVIVORS**

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**Introduction**

Male cancer survivors have a higher risk of cancer than the general population, which might be caused by an increased prevalence of obesity or susceptibility to obesity-related carcinogenesis.

**Objectives**

We assessed the effects of obesity prior to the diagnosis of a first cancer on the development of secondary primary cancers (SPCs).

**Methods**

This study population consisted of 239,615 Korean male cancer survivors between January 2003 and December 2010. Incident SPCs were assessed throughout follow up until December 2011. Cox proportional hazards models were used to calculate the hazard ratios (HRs) of SPCs associated with pre-diagnosis body mass index (BMI) and compared to those of first cancers in all cohort participants.

**Results**

After 1,614,583 person-years of follow up, we observed 4,799 cases of SPC. The age-standardized incidence rate of cancer in cancer survivor was 1.1 times higher than that of the general population. We found positive linear trends between pre-diagnosis BMI and risk of all-combined, colorectal, liver, lymphoma, biliary tract, and kidney cancers. The magnitude of the BMI-SPC association in male cancer survivors was stronger than that for first cancers among all cohort participants (1.12; 95%CI, 1.09-1.16, \( P_{\text{heterogeneity}} < 0.01 \)).

**Conclusions**

Pre-diagnosis obesity is associated with an overall higher risk of SPCs in male cancer survivors, which might be partially due to an increased susceptibility to obesity-related carcinogenesis.

**eP425**

**THE IMPACT OF CANCER TREATMENT ON FINANCES AND TREATMENT DECISIONS AND THEIR RELATIONSHIP TO SOCIOECONOMIC AND DISEASE FACTORS**

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**Introduction**

Data suggesting some cancer patients forego or delay medical treatment due to cost may indicate inequities in access to health services.

**Objectives**

This study aimed to quantify the effects of a cancer diagnosis on income and employment; describe how cost-related factors influence treatment decision making and need for financial assistance; and to identify patient sociodemographic factors associated with treatment decision making, use of financial assistance and financial effects.

**Methods**

A cross-sectional self-report survey of oncology outpatients from regional and metropolitan hospitals in Australia.

**Results**

Of 255 participants, 67% indicated a change in employment and 63% of those reported reduced household income since their diagnosis. Travel (15%), loss of income (14%) and cost of treatments (11%) were commonly cited factors influencing treatment decision-making. Seventy-four percent of participants reported that they did not access financial assistance, with more than a third (37%) of those being unaware that financial assistance was available. Being currently not employed and more recent diagnosis were associated with a reduced income since diagnosis. After adjusting for employment status and age, patients with private health insurance had higher odds of reporting financial factors influenced treatment decision-making.

**Conclusions**

Unemployment is a major driver of the financial impact of cancer. The costs of treatment may be particularly challenging for those with private health insurance who are more likely to be treated in the private health system where out of pocket costs are greater. Improved access to financial assistance is required to better avoid potential inequities.
INTRODUCTION

The number of peer support groups for cancer survivors in operation globally is substantial; however, little is known about requisite group leader qualities. Information on requisite knowledge, skills and attributes may help agencies involved with peer support groups and assist with selection and development.

OBJECTIVES

To use a systematic review and expert opinion to deduce requisite group leader qualities.

METHODS

A systematic search was used to identify eligible citations (see Figure); then data on knowledge, skills and attributes was extracted. Summarising content analysis was used to derive themes (or key qualities) based on collected data. Next, online Delphi rounds with expert panel members were used to: identify additional content and possible precluding factors; and reach consensus on knowledge, skills and attributes required to be ready for the group leader role.

RESULTS

Seven qualities were deduced from 49 citations. Qualities included: group management, group process, role modelling, awareness, willingness, agreeableness, and openness. No additional qualities were identified in the first Delphi round, but the pool of knowledge skills and attributes was expanded from 59 to 114. In the second round, 52 knowledge, skills and attributes were deemed to be required to be ready to undertake the role of cancer support group leader.

CONCLUSIONS

Qualities identified through the systematic review were confirmed by expert panel members. Consensus was reached on knowledge, skills and attributes required to be ready to undertake the role of a cancer support group leader. Findings may help inform selection and development strategies for cancer support group leaders.

eP427

CANCER SURVIVORSHIP MONITORING SYSTEMS FOR THE COLLECTION OF PATIENT-REPORTED OUTCOMES: FINDINGS FROM A SYSTEMATIC NARRATIVE REVIEW OF INTERNATIONAL APPROACHES

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INTRODUCTION

To better understand the physical and psychosocial challenges experienced by cancer survivors, routine collection of post-diagnostic patient-reported outcomes (PRO) is required. Monitoring systems are an appealing platform for the collection of PRO due to population-level reach, regular and systemic data collection, prospective data linkage with death and other ancillary records, and accompanying monitoring of patients’ socio-demographic and clinical characteristics. Objectives

A systematic narrative review was conducted to identify reports that described the development and operational approaches of monitoring systems for ongoing collection of PRO in cancer survivors.

METHODS

Searches were conducted using Medline, PubMed, PsychINFO, the Cochrane Library, CINAHL, Scopus, JBI EBP Database and Google Scholar for papers describing monitoring systems that had ongoing recruitment and collected PRO from cancer survivors at more than one time point, from 6 months post-diagnosis onward. Registry custodians were contacted for information about their translation strategies.

RESULTS

Eleven articles were included, representing seven international monitoring systems which varied in scope, set-up, governance, data linkage, feasibility, and data collection methods. Several of the monitoring systems have processes in place that have led to reviews of treatment processes, improved clinical practice and health service delivery,
changes to policy, and a better understanding of supportive care needs. Although there is no ‘one size fits all’ approach to establishing a monitoring system, we derived some key lessons and considerations.

Conclusions
The studies mentioned have demonstrated the viability of collecting PRO from cancer survivors using varied approaches including population-based monitoring systems for identifying and recruiting cancer survivors.

eP428

“LIVING ON A PRECIPICE” – THE EXPERIENCE OF CARING FOR PEOPLE LIVING LONGER WITH HIGH GRADE GLIOMA
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Introduction
Caregivers of longer-term survivors of high grade glioma (HGG) face the challenging task of caring for a person with cognitive changes as well as cancer-related issues over a prolonged period.

Objectives
This study aims to explore the experiences of this population of caregivers.

Methods
Caregivers of eligible patients with HGG surviving greater than two years were recruited from two Australian metropolitan tertiary hospitals. Caregivers were purposively sampled until data saturation was reached. In-depth interviews were conducted exploring their experiences, perspectives and needs. Transcripts were subjected to thematic analysis by three researchers, using methods informed by grounded theory.

Results
Twelve caregivers were interviewed. Most were spouses and had been caring for a mean of 10.0 years (range 2.7-18.4) since the patient’s diagnosis. Caregivers described a liminal state - that is, grieving the loss of their former ‘normal’ life, yet unable to either embrace survivorship status or move into bereavement. They experienced a changed existence shaped by pervasive thoughts of tumour recurrence and, ultimately, the death of the patient. Preoccupation with future grief lead to a sense of life being on hold, with caregivers unable to plan ahead and yet resisting living as though the patient is dying. Caregivers simplified their daily life and some also began to memorialise their loved one whilst they remained alive.

Conclusions
This study provides rich insights into the experiences of caregivers of longer-term survivors of HGG. These caregivers reported unique and isolating experiences of liminality which had a profound effect on their decision-making and wellbeing.

eP429

INCONTINENCE, PSYCHOLOGICAL RESILIENCE AND DEPRESSION IN PROSTATE CANCER SURVIVORS
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Introduction
All treatments for prostate cancer (PCa) have aversive side effects. Some of these may include urinary and faecal incontinence, which can lead to depression in these patients. Although these side effects are difficult to limit, the depressive consequences may be open to moderation by certain personality variables. One such personality variable that has been shown to moderate the depressive effects of major stress, assault and trauma is Psychological Resilience (PR).

Objectives
To investigate the moderating effects of PR upon the relationship between incontinence and depression in a sample of men with PCa 10 years after their diagnosis.

Methods
146 PCa survivors completed the Connor Davidson Resilience Scale (CDRISC), the Zung Self-rating Depression Scale (SDS) and items 6 and 11 from the EORTC QLQ-PR25, which measure urinary and faecal incontinence respectively. Zero-order and Partial correlation coefficients were calculated between the two EORTC QLQ-PR25 items and SDS total score, with the total CDRISC score and five Component scores as moderators.

Results
Table 1 presents the findings that CDRISC score significantly moderated the correlation between urinary and bowel incontinence and depression. Table 2 shows that this moderating effect was most powerful for CDRISC Component 1 (Personal competence, high standards and tenacity) and Component 4 (Sense of control).
Conclusions
Psychological Resilience (particularly Components 1 and 4) may help PCa patients cope with incontinence side effects without becoming significantly depressed. Since PR training is commonly available, this could form a potentially valuable intervention for PCa survivors.

eP430
HOW TO ASSESS PERSONAL AND FUNCTIONAL CHANGE IN PROSTATE CANCER SURVIVORS: DEVELOPMENT OF THE FADE
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Introduction
Relatively high numbers of prostate cancer (PCa) patients also become depressed. Although it has been demonstrated in other fields that experiencing chronic and uncontrollable aversive events can lead to depression, this pathway has not been explicated in PCa. Identification of such a pathway could help develop individualised treatment ‘targets’ for these men.

Objectives
To develop and field-test a scale for measuring PCa symptom-driven Personal Changes and the effects these had upon patients’ Functionality in a sample of men with PCa 10 years after their diagnosis.

Methods
The Functional Analysis of Disease Effects (FADE) was developed from interviews with 10 PCa survivors and 5 radiation oncologists, and was based upon the kinds of changes that were experienced by PCa patients and how those changes affected a range of areas of their functioning. Validity was assessed by agreement with the Zung Self-rating Depression Scale and reliability indices were calculated.

Results
Table 1 presents the items comprising the FADE, and Table 2 presents its reliability and validity data. Content, construct and criterion validity were satisfactory. Internal consistency was within the ranges recommended for short scales.

Conclusions
The FADE may be used to identify how PCa has changed patients’ lives, plus the effects those changes have had upon their functional ability. These data may be used to form diagnostic summaries that go beyond symptom identification to form treatment scaffolds that can underpin personalised medicine approaches to help PCa patients avoid becoming depressed.

eP431
INPATIENT FALLS AT A TERTIARY NATIONAL CANCER CENTER
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Introduction
The high risk for falls in cancer patients secondary to symptoms, comorbid medical issues, age, medication side effects and other factors has been previously reported. We found no studies which reported the incidence, patient demographics, and degree of harm in inpatient falls at a major national cancer hospital.

Objectives
To describe inpatient falls from September 2011 to December 2013 at the University of Texas MD Anderson Cancer Center in Houston, Texas, USA.

Methods
Incidence, patient data, and total number of hospital days were retrospectively obtained through incident reporting and main hospital data bases.

Results
From September 1, 2011 through December 31, 2013 there were 1522 falls in 1335 patients in 462221 patient days for a fall rate of 3.29 per 1000 patient days. Major harm was reported in 25/1522 falls. Lymphoma was the diagnosis in 5/25 patients.
Leukemia 5/25
Lung cancer 3/25
2/5 moderate falls were related to toileting.
Moderate harm was reported in 19/1522 falls
Leukemia diagnosis 4/19
Lymphoma 3/19
GI cancer 3/19
2/19 moderate harm falls related to toileting.
Minor harm was reported in 422/1522 falls
Leukemia diagnosis in 94
Lymphoma 52
GI cancer 42
107/422 minor harm falls related to toileting.

Conclusions
At a major tertiary national cancer center inpatient fall rate was comparable to falls rates reported in other acute settings. Inpatient falls with injury were more likely to occur and more likely to be severe in patients with hematologic cancer diagnosis. 25% of inpatient falls with harm were associated with toileting.

eP432
USING E-TOOLS TO MANAGE CHILDHOOD CANCER SURVIVORSHIP CARE: SURVIVOR AND HEALTH CARE PROFESSIONALS’ PREFERENCES AND CONCERNS
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Introduction
E-tools can provide an easily-accessible, interactive, alternative to static paper treatment summaries and survivorship care plans. They have the potential to further support childhood cancer survivors (CCS) to manage their long-term survivorship care, facilitate transition and continuity of care, and may offer support to health care professionals (HCPs).

Objectives
To understand HCPs and survivors’ perceived acceptability, preferred features, and anticipated concerns about survivorship care e-tools.

Methods
Interviews and focus groups were conducted with CCS, parents of survivors <16 years, and HCPs, followed by a survey. Data was analysed using SPSS23.0 and NVivo10.

Results
Twelve survivors, 10 parents, and 58 HCPs participated. All participating survivors and parents indicated that they would use an e-tool for survivorship care planning. 77% of CCS agreed it would improve their confidence in managing their care, and 79% agreed it would improve their GP’s involvement. The majority of HCPs (87.5%) also endorsed survivorship care e-tools. The most important features to survivors/parents were up-to-date (73%) and personalized (33%) information, and access to past/planned records (40%). HCPs reported needing more patient-specific information regarding late effects and surveillance requirements to improve delivery of survivorship care.

Survivors raised few concerns about e-tools, however 58% expressed concerns about security/privacy. HCPs concerns related to lack of time, losing passwords, and insufficient technological training.

Conclusions
E-tools are generally endorsed by HCPs, survivors and their families, to help manage survivorship follow-up care. Preferences and feedback from this study may be incorporated into the development of future e-tools to ensure their successful implementation.

eP433
EXPERIENCE OF NURSING PROFESSIONAL SUPPORT FROM THE PERSPECTIVE OF PATIENTS WITH CANCER IN CHINA
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Introduction
Exploring professional supportive care needs from view of patients with cancer is prerequisite for nurses to provide such care accordingly.

Objectives
The purpose of this study was to understand the needs regarding nursing professional support from patient own perspectives, identify partially met and unmet support among the expected needs, and explore the reasons for the disparity between identified needs and the meeting of these needs.

Methods
A qualitative study with a phenomenological approach was performed. A purposive sample of 22 patients with different types of cancer was enroled and interviewed using semistructured guidelines. Contnet analysis of the data was performed.

Results
Several needs regarding nursing support were expressed, including informational, psychological, clinical, and care coordination and communication needs. There were some unmet or partially met needs. Reasons for the disparities included both patient and nurse aspects, such as the patients’ lack of awareness regarding how to acquire professional assistance, patients’ reluctance to express their needs, nurses’ lack of active communication with patients, nurses’ inability to provide specific support, and limited resources for coordination.

Conclusions
The expectation of nursing support did not always correspond with the actual delivery of nursing care. A tailored intervention is warranted to meet patients’ expectations, which may contribute to quality-of-care improvements.

eP434
DEVELOPMENT OF A SURVIVORSHIP CARE PLAN

318
AND TREATMENT SUMMARY FOR LYMPHOMA SURVIVORS.
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Introduction
Lymphoma is a commonly diagnosed cancer that requires complex and aggressive treatment regimens. Given the absence of follow-up guidelines and an increased risk of biopsychosocial impacts from disease and treatment, there is potential for poorer overall health outcomes. Survivorship care plans and treatment summaries (SCPTS) are recommended to facilitate individualised and holistic survivorship follow-up to patients and health care providers, communicating: diagnosis and treatment-specific information; potential late effects; and health promotion.

Objectives
To develop a lymphoma SCPTS that provides written information to survivors and health care providers with clear delineation of future care responsibility.

Methods
A comprehensive integrative review of literature and current SCPTS was undertaken. No suitable lymphoma-specific SCPTS were found. Therefore a lymphoma SCPTS was developed to provide: a concise diagnosis/treatment summary; tailored late effects information; general healthy lifestyle behaviour and screening information. The SCPTS also encourages survivors to generate their key health issues, health goals and actions.

Results
Lymphoma survivors (n=6) and clinicians (including GPs) (n=6) perspectives were sought to determine relevance of proposed SCPTS items. Items were assessed for content clarity, apparent internal consistency and content validity. Content validity index (CVI) scores were generated for each item. Overall, mean CVI results for included items were: clarity 0.985; apparent internal consistency 0.975; content validity 0.895. Low scoring items were removed. Feedback indicated GPs valued a short and concise treatment summary.

Conclusions
Providing a tailored SCPTS may empower survivors to assume responsibility for future surveillance and disease management, facilitating engagement in a future healthy lifestyle.

eP435

DEVELOPMENT OF A PHASE II PILOT RANDOMISED CONTROLLED TRIAL OF A

LYMPHOMA NURSE-LED MODEL OF SURVIVORSHIP CARE: CARE AFTER LYMPHOMA (CALY) TRIAL.
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Introduction
Robust evidence to support nurse-led models of survivorship care in lymphoma cancer patients is limited. A previous study by the authors indicated the need for an experienced health professional to support lymphoma patients to transition into the survivorship phase. Lymphoma is the sixth most common cancer diagnosed worldwide and can be aggressive, requiring treatment regimens that impact long-term quality of life. Current post-treatment follow-up cancer care models fail to address these complex issues. Given that 74% of lymphoma patients survive five years beyond diagnosis and treatment, it is important to address this gap in care by developing and testing our intervention using a Phase II RCT.

Objectives
To develop and test a nurse-led model of survivorship care that will provide tailored care to meet the informational and practical needs of lymphoma patients who have completed treatment.

Methods
A pilot randomised controlled trial protocol was developed to test the effect of a nurse-led lymphoma survivorship clinic compared with usual post-treatment care at a large tertiary cancer centre in Western Australia. The intervention has included the creation of a survivorship care plan, treatment summary and tailored information pack. It comprises three face-to-face appointments at 3, 6 and 9 months post-treatment completion.

Results
Ethics approval has been granted by the relevant university and hospital committees. The nurse-led clinic has been developed and recruitment has commenced.

Conclusions
Nurse-led models are proposed as an acceptable pathway to transition into survivorship. This research will provide valuable evidenced-based data to generate larger phase III trials.

eP436

QUALITY OF LIFE, SYMPTOMS, PHYSICAL ACTIVITY AND BODY MASS INDEX OF CANCER
SURVIVORS ATTENDING THE SYDNEY SURVIVORSHIP CLINIC

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Introduction
The Sydney Survivorship Centre was established in September 2013, to provide holistic care for adult cancer survivors. It provides a multi-disciplinary clinic (including cancer specialist, cancer nurse, dietitian, psychologist and exercise physiologist) for patients with localised cancer after completing primary treatment.

Objectives
To determine the health status of cancer survivors post primary treatment. Survivors completed questionnaires assessing: distress, symptoms, quality of life, diet and exercise before attending; and a satisfaction survey after. Body mass index and recommendations from the clinic were reviewed.

Results
Survivorship clinic was accessed by 100 new patients in the first year; median age 54 years (range 23-80); 78% were female. Median time from diagnosis: 11 months (range 1-134). Tumour types: 51% breast cancer, 35% colorectal and 14% haematological malignancy. Most common symptoms of at least moderate severity were: fatigue (50%), anxiety (40%), depression (32%). Distress Thermometer mean score was 3.6/10 (range 0-10), with 43% scoring >4. 45% of attendees were referred for psychological follow-up. Average body mass index (BMI) was 28.1 kg/m² (range 17.6-59 kg/m²); 61% were overweight or obese, with mean weight gain since diagnosis of 2.9 kg (range -10.3-24.6 kg). 42% of survivors reported meeting physical activity guidelines.

92% rated attendance at the Survivorship clinic as “extremely” or “very worthwhile” and 81% would recommend the clinic to others. Data will be updated to present up until May 2016.

Conclusions
Distress, anxiety, fatigue, obesity and sedentary lifestyle are common in our cancer survivors. The Survivorship clinic has the potential to address important issues for cancer patients after adjuvant treatment.

eP437
LATE SYSTEMIC SYMPTOMS (SS) IN HEAD AND NECK CANCER (HNC) SURVIVORS AS MEASURED BY THE VANDERBILT HEAD AND NECK SYMPTOM SURVEY GENERAL SYMPTOMS SUBSCALE (GSS)
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Introduction
Neuroinflammation and central sensitization from cancer and treatment may result in late SS. Studies of SS in HNC survivors are lacking, partly because comprehensive, targeted tools are absent. The GSS was developed to meet this need and promote SS research.

Objectives
1. Evaluate the frequency, severity, and impact of chronic SS in HNC survivors.

Methods
Design: Mixed-methods, cross-sectional, descriptive
Inclusion: Cancer-free HNC patients age ≥ 21, ≥ 12 months post-treatment.

Procedures: Patients completed self-report measures: GSS, POMS-SF, NRS, BIQLI, and QOL scale. Those with moderate-to-severe SS (scoring ≥ 4 on ≥ 1 GSS item) were offered a structured interview exploring impact.

Statistics: Frequency distributions were used to summarize patient characteristics and GSS item responses.

Results
Recruitment to date: 66 of 100 planned
Patient characteristics: male 77%, Caucasian 95%, median age 63.8 years, median time since last treatment 38 months. 52% experienced ≥ 1 moderate-to-severe SS. SS frequencies (percent with any grade / percent with moderate-to-severe) were fatigue 41%/20%, with 21% reporting moderate-to-severe daily impact; trouble falling asleep 33%/8%; trouble staying asleep 48%/22%; unexplained sweating 20%/8%; feeling hot 30%/5%; feeling cold 49%/22%; weight loss 15%/2%; anorexia 22%/11%; memory or cognitive problems 46%/20%; depression 30%/8%; anxiety 36%/11%; widespread pain 50%/23%, with 12% reporting average pain ≥ 4/10. Qualitative data regarding SS impact will be presented.

Conclusions
The frequency, severity, and significance of late SS in HNC survivors is substantial and mitigation is essential. Future directions include prevention of neuroinflammatory toxicities, treatments minimizing symptom burden, and support programs for those destined to survive with complex late effects.

eP438
ASSESSMENT OF QUALITY OF LIFE AFTER...
ADJUVANT RADIOTHERAPY IN BREAST CANCER PATIENTS ACCORDING TO THE PASSAGE OF TIME: A KOREAN MULTICENTER SURVEY (KROG 14-09)


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Introduction
Long-term survivor among breast cancer patients has been consistently increased.

Objectives
To know the major problems for the survivor with breast cancer, the quality of life was measured according to the passage of time.

Methods
From August 2014 to September 2015, total 1156 patients were enrolled this nation-wide survey from 17 institutions. All survivors had been disease free status and were grouped according to the follow-up time of 9-15 months (first year), 21-27 months (second year), and 33-39 months (third year) from the end of radiotherapy. The EQ-5D (mobility, self-care, usual activities, pain/discomfort, and anxiety/depression) and the EORTC QLQ-BR23 (body image, future prospective, and sexual functions and enjoyment for function area; arm and breast symptoms, side effect of systematic therapy and upset by hair loss for symptom area) questionnaires were checked by self-administrated method.

Results
The stage of 0-I were 58.1%. The first, second and third year were 51.0%, 28.9%, and 21.0%, respectively. Pain/discomfort was the worst and anxiety/depression was the next one in the EQ-5D. In the EORTC QLQ-BR23, sexual functioning and upset by hair loss were the worst in functioning and symptom area, respectively. Sexual enjoyment and future prospective was another poor ones. Pain/discomfort, usual activities and breast and arm symptoms were improved according to the passage of time. The extent of pain/discomfort and anxiety/depression was similar at the third year. Functioning area stayed in similar degree regardless of the passage of time.

Conclusions
The supportive care to improve pain/discomfort, anxiety/depression and sexual function should be fortified for survivors of breast cancer.

eP439
THE INFLUENCE OF SYMPTOMS, UNCERTAINTY, FAMILY SUPPORT ON RESILIENCE IN PATIENTS WITH BREAST CANCER RECEIVING CHEMOTHERAPY
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Introduction
Most of breast cancer patients receiving chemotherapy have experienced severe suffering on the physical, psychological symptoms and uncertainty. In the crisis situation of these life it can be recovered and adapted to positively, there is a need for research of the resilience.

Objectives
This study is a cross-sectional descriptive study to investigate correlations and influence relationships between resilience and its predictor variables in the breast cancer patients receiving chemotherapy.

Methods
The study participants were 121 breast cancer patients receiving chemotherapy at A hospital in Korea 2014. Data measurements were conducted by using Korean Version of CD-RISC for resilience, MSAS-SF for symptoms, MUIC for uncertainty, and Kang’s Family Support Scale for family support.

Results
There were statistically significant differences in resilience of the participants across educational status, occupational status, and economical status. There were significant positive correlations between resilience and family support, between symptoms and uncertainty, and there were significant negative correlations between resilience and symptoms, between resilience and uncertainty, and between family support and uncertainty.

As for results of stepwise multiple regression analysis, the significant predictor variables of resilience were uncertainty, family support, and above college educational level, and overall explanatory power, the coefficient of determinant,
A. Amin

Introduction

The angiogenesis inhibitor, sorafenib, remains the only available therapy of hepatocellular carcinoma (HCC). Only recently patents of VEGF receptors-3 inhibitors are developed. Thus, a novel approach against HCC is essential for a better therapeutic outcome.

Objectives

The aims of this study were to examine the chemopreventive action of saffron’s main biomolecule, crocin, against chemically-induced liver cancer in rats, and to explore the mechanisms by which crocin employs its anti-tumor effects.

Methods

We investigated the anti-cancer effect of crocin on an experimental carcinogenesis model of liver cancer by studying the anti-oxidant, anti-inflammatory, anti-proliferation, pro-apoptotic activities of crocin in vivo. In addition, we provided a network analysis of differentially expressed genes in tissues of animals treated with crocin in comparison to induced-HCC animals’ tissues. To further support our results, in vitro analysis was carried out. We assessed the effects of crocin on HepG2 cells viability by treating them with various concentrations of crocin; in addition, effects of crocin on cell cycle distribution of HepG2 cells were investigated.

Results

Findings reported herein demonstrated the anti-proliferative and pro-apoptotic properties of crocin when administrated in induced-HCC model. Crocin exhibited anti-inflammatory properties where NF-kB, among other inflammatory markers, was inhibited. In vitro analysis confirmed crocin’s effect in HepG2 by arresting the cell cycle at S and G2/M phases, inducing apoptosis and down regulating inflammation. Network analysis identified NF-kB as a potential regulatory hub, and therefore, a candidate therapeutic drug target.

Conclusions

Taken together, our findings introduce crocin as a candidate chemopreventive agent against HCC.

N. Brito-Dellan

Introduction

Oncologic emergencies represent conditions caused by the cancer itself or as side effects of therapy. They can occur at any time during the course of a malignancy, from an initial presentation in someone with an undiagnosed cancer, to end-stage incurable metastatic disease. They portend a poor prognosis. Their early recognition and management ensure the possible best outcomes.

Objectives

Provide an up-to-date review of current literature of eight key malignancy-related complications encountered in patients with a solid tumor.

Methods

Review of current literature and application of knowledge to direct patient care.

Results

Eight complications are addressed in this review. Specifically, hypercalcemia requires aggressive intravenous hydration and a bisphosphonate. Hyponatremia entails assessment of the patient’s volume and neurological status for treatment accuracy. Acute tumor lysis syndrome necessitates intravenous hydration, rasburicase, and management of associated electrolyte disturbances. Neutropenic fevers mandates risk stratification and rapid initiation of empiric antibiotics. Malignant spinal cord compression demands immediate spinal imaging, glucocorticoids, and either surgery or radiation. Superior vena cava syndrome may warrant radiation, chemotherapy, vascular stenting, or surgical resection. Malignant pericardial effusion may require emergent pericardiocentesis if cardiac tamponade develops. Drug-related emergencies urge knowledge of the medications, their mechanism of action and their side effects profile.

Conclusions

Malignancy-related complications demand increased attention from physicians due to their frequency and increasing cancer prevalence. Their knowledge expedites the ability of the practitioner to properly manage them, therefore ensuring the possible best outcomes by facilitating either definitive care of the underlying malignancy or the institution of appropriate palliative measures.
Results
From 2008 to 2015 there have been passed several medical laws which included implementation and development of palliative care in the country; national palliative care standards, including those for HIV/AIDS patients; prescription and access to drugs, including weak and strong opioids; clinical protocols on the basic symptoms’ management and costs for home-based and in-patient palliative care services.

Conclusions
Despite the fact that palliative care in the country makes only first steps during 7 years there has been laid the basis for implementation and further development of palliative care in the country.

eP443
EVALUATING CLINICAL OUTCOME AND TOXICITY FOR STEREOTACTIC BODY RADIOTHERAPY IN OLIGOMETASTATIC LUNG DISEASE
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Introduction
Metastatic lung disease generally confers a poor prognosis. Evidence showed that a distinct group of patients with oligometastasis can result in favorable outcomes after local ablative treatment. The use of stereotactic body radiotherapy (SBRT) in treating such disease entity is emerging.

Objectives
This study aims to study the effectiveness of SBRT in patients with oligometastatic lung disease. Response rate, survival and toxicities will be evaluated.

Methods
Patients who received SBRT between April 2013 and August 2014 were studied. Various disease primaries and up to four metastatic disease on presentation are allowed. SBRT with dose 50Gy in 2-3 fractions per week for a duration of 2 weeks were delivered for all patients. Progress CT at 3, 6 and 12 months after completion of RT was done. Local control which represents non-progression as measured from RECIST criteria, and acute and chronic grade 2 and above toxicity are reviewed.

Results
Fourteen lung metastases in 12 patients were studied, and median follow up was 18.8 months (7.4 – 28.0). Most patients (83%) had only solitary metastases at the time of treatment. Local control is 100%, 86% and 71% at 3, 6 months and 12 months post radiotherapy respectively. None of the patients suffered from any toxicity during treatment. Their ECOG performance status had no deterioration on serial follow up assessments.

Conclusions
The study demonstrates excellent local control for patient with oligometastatic lung disease after SBRT, and the results are comparable to existing literature series.

eP444
UNSCHEDULED EMERGENCY DEPARTMENT PRESENTATIONS BY CANCER PATIENTS
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Introduction
Cancer patients who present to Emergency Departments (ED) for disease or treatment side-effects have worse outcomes than patients who do not. Nurses in ED assess and treat many cancer patients who present with symptoms that have occurred as a result of anti-cancer drug treatment.

Objectives
This PhD study will identify the number of patients who present to an ED after receiving anti-cancer drug treatment in a Day Oncology setting. Furthermore, the study aims to describe this patient population and to identify modifiable risk factors for ED presentation.

Methods
Twelve months of retrospective data were collected from existing medical patient records at a large Melbourne hospital. Eligible records included patients who received anti-cancer drug treatment in a Day Oncology setting up to four weeks prior to making an ED presentation.

Results
Four-hundred and forty-two patients made 761 ED presentations during the study period. The main reasons for presentation were: fever, neutropenia, and nausea and vomiting. Preliminary data reveals that 490 (64%) patient attendances were allocated a triage category of between 3 and 5. Six-hundred and forty-six (84.89%) patients presented without a medical referral, presenting independently or on the advice of family or friends, and 289 (39.98%) patients were discharged home from the ED without admission for further care.

Conclusions
Identifying risk factors that are potentially modifiable will inform cancer service innovations to help prevent ED presentations for cancer patients. Future research should focus on evaluation of new system level interventions that will prevent patients with low levels of clinical risk from presenting to ED services.

eP445
A STUDY INTO THE SAFETY, EFFICACY AND TOLERABILITY OF SCALP COOLING IN PATIENTS RECEIVING CHEMOTHERAPY, THROUGH THE REDUCTION OF CHEMOTHERAPY INDUCED ALOPECIA.
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Background: Chemotherapy-induced alopecia is one of the most distressing side effect for patients. Scalp cooling is an effective method for preventing chemotherapy-induced alopecia, and is widely used in the UK and Europe.
Aim: To determine the efficacy and tolerability of scalp cooling in patients with early breast cancer receiving chemotherapy at the Cabrini Brighton Day Oncology Service. A secondary aim was evaluate patient wellbeing and quality of life.

Method: This is an open label non-randomised cohort study. A series of self-report questionnaires including quality of life measures, a demographic and registration questionnaire, and a range of questions about expectation, satisfaction and aspects of most benefit (post study questionnaire) of the scalp cooling procedure were administered at multiple time points.

Results: A total of 34 patients completed the pre-trial evaluation. 24 patients went on to complete the scalp cooling trial. Five discontinued due to intolerability, and 5 decided not to commence the trial. All patients that completed the trial were happy with the end result, describing being able to keep their hair, (even if only partially) as a great result.

Some hair loss was reported. Side effects were minimal and all would recommend the trial to other patients. Wellbeing and quality of life results were positive.

Conclusion: Results from the evaluation of the trial indicated a positive response, with excellent feedback from patients. As a result, scalp cooling has now become standard practice at Cabrini Brighton Day Oncology and will be implemented at Cabrini Malvern.

eP446

OPTIMAL CANCER CARE PATHWAYS: A MULTIDISCIPLINARY FOCUS ON SUPPORTIVE CARE
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Introduction
The Optimal Care Pathways (OCPs) are intended to guide the delivery of consistent, safe, high-quality and evidence-based care for people with cancer.

Objectives
The OCPs describe the optimal care for common types of cancer and specifically highlight non-medical and emerging areas of practice such as supportive care, communication, prehabilitation and survivorship. The OCPs aim to improve patient outcomes by reducing unwarranted variation across the care pathway.

Methods
Multidisciplinary working groups of clinical experts met to review and agree the content for each cancer pathway. This was followed by waves of public consultation, key stakeholder review and consultation with relevant health colleges and peak organisations, before final publication.

Consumers and carers, including consumer advocacy groups, participated in cancer specific working groups and all consultation rounds.

Results
Fifteen OCPs have been developed. They identify and reflect current best practice at critical points throughout the patient journey from early detection through to managing recurrent disease and end of life care. Common indicators for supportive care were tailored and included in each OCP. Consumer friendly versions of the OCPs and an interactive consumer web portal were developed to assist patients and carers to navigate the care pathway. Detailed clinical versions and quick reference guides designed for use by General Practitioners. The OCPs have been endorsed by the Australian Government for national implementation.

Conclusions
The OCPs are a guide for implementing a standardised pathway of care. Indicators for supportive care are emphasised throughout the OCPs and will support improvement initiatives at the health system and local service levels.

eP447

ESTABLISHING AN INTEGRATIVE ONCOLOGY SERVICE IN THE AUSTRALIAN HEALTHCARE SETTING
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Introduction
There is an obvious mismatch between the high use of traditional and complementary medicines (T&CM) by Australian cancer patients and cancer survivors, and the low numbers of Australian cancer services integrating T&CM. An estimated 65% of Australian cancer patients use at least one form of T&CM. Over half use T&CM in conjunction with conventional cancer therapy. Yet less than 20% of Australian hospital cancer care facilities provide access to T&CM.

Objectives
This presentation provides general guidance and practical strategies for those seeking to develop integrative oncology services in Australian cancer care facilities.

Methods
We reviewed examples of existing IO services in Australia and overseas. Known barriers to providing IO were identified from the literature. In understanding how an integrative oncology service may be successfully established, we used an extended version of Donabedian’s structure-process-outcome model to outline the various aspects of service provision and evaluation and address key challenges. Results
The philosophy of IO service provision, the structure, and the process by which the IO service is provided are outlined within an Australian context. Three IO service models derived from the IO services reviewed are presented. Strategies discussed to address barriers include methods of
introducing, developing an IO team, credentialing and medico-legal considerations, maintaining financial viability; different types of governance and considerations for selecting therapies.

Conclusions
A balance must be found that promotes optimal service delivery, safety, quality assurance, value for money and meets the need of the patient. There are considerable challenges with identifying a sustainable service model and building a functional multidisciplinary team.

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PROFILING CANCER SERVICES IN REGIONAL AUSTRALIA TO GUIDE OPTIMAL CANCER CARE
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Introduction
Despite good overall cancer survival rates in Australia, variations in outcomes exist by location, population group and tumour type. Nearly one-third of Australia’s population live in regional areas. Cancer mortality rates are higher and survival rates are lower for people living in regional locations compared to major cities.

Objectives
To map cancer services, for 6 common and 7 complex cancers, provided by regional cancer services at a point in time, and compare this information against national clinical service capability frameworks.

Methods
Under the endorsed National Cancer Expert Reference Group, National Cancer Work Plan, data from 34 regional cancer services from across Australia was gathered through three national surveys, to identify patterns of care and referral practices for select common and complex cancers.

Results
Australia’s regional cancer services provide comprehensive cancer services for people living in regional Australia either; locally, through a mix of local and higher level service, or by referral to a higher level service. The multiple types and complexity of cancers indicate the need for evidence-based flexible approaches to service provision that enable timely diagnosis and access to specialist multidisciplinary teams.

Conclusions
Cancer Australia is collaborating with jurisdictions to identify priorities and opportunities for enhanced best-practice cancer care to enable people living in regional Australia to access cancer care at the right time, in the right place, with the right expertise and capability.

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Introduction
Supporting lifestyle and keeping physical activity is important to preserve independent living and quality of life in elderly cancer patients. However, little is known about the impact of lifestyle changes on physical activity.

Objectives
The aim of this study is to explore relationship between changes in lifestyle and physical activity.

Methods
This is the prospective longitudinal observational study approved by the institutional review board. Patients aged >=70 years with advanced NSCLC (stage IV) scheduled to commence first-line chemotherapy were enrolled. Physical activity (steps per day, SPD) was measured using the accelerometer (Lifecorder-GS, SUZUKEN, Japan). Lifestyle information was obtained by interviewing patients or carers every 12 weeks.

Results
Among 20 patients (11 men and 9 women), median age and baseline physical activity were 76 (70-83) years and 3224 (803-19957) SPD. Women engaged more frequently in housekeeping activities. Having hobbies (4148 vs 1541 SPD, Wilcoxon p<0.05) and frequency of going out (5613>=70 years with advanced NSCLC scheduled to start chemotherapy were enrolled. Physical activity (steps per day, SPD) was measured using the accelerometer (Lifecorder-GS, SUZUKEN, Japan). Lifestyle information was obtained by interviewing patients or carers every 12 weeks.

Conclusions
Early detection of lifestyle changes during chemotherapy. Early detection of lifestyle changes would be needed for preventing physical inactivity and keeping independent living in this population. (Clinical Trials Registry No. UMIN000012845)

A survey of Goserelin toxicities and preferences for ovarian suppression method in pre-menopausal women with breast cancer (PMBC)
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RELATIONSHIP OF RENAL TOXICITY AND TREATMENT OUTCOME OF CHEMOTHERAPY IN PATIENTS WITH ADVANCED OR METASTATIC LUNG CANCER

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Introduction
Standard chemotherapy in patients with lung cancer have a high risk of acute kidney insufficiency (AKI) caused by a platinum-based chemotherapy. When AKI occur during or after chemotherapy, the treatment will be delayed or reduced doses of anticancer drugs. These may affect the efficacies of cancer treatments.

Objectives
We aim to evaluate the incidence of acute kidney insufficiency (AKI) and relationship of renal toxicity and treatment outcomes of chemotherapy.

Methods
We retrospectively reviewed the medical records of patients with advanced or metastatic lung cancer who were received cisplatin based chemotherapy between January 2005 and December 2014 at single centers. The outcome of the study were assessment of incidence of AKI and overall survival (OS) and progression free survival (PFS) according to renal function.

Results
A total of 208 patients were included in the analysis (adenocarcinoma, n=87; squamous cell carcinoma, n=51; small cell carcinoma, n=65; others n=5). Thirty-five patients (16.8%) occurred AKI during treated with first line chemotherapy and 54 patients (26%) appeared AKI after completing of first line chemotherapy. Median PFS was not significant difference between patients who occurred AKI and those who didn’t occur AKI during chemotherapy (5.2 vs 5.5 months, respectively; p=0.258). However median PFS was significantly longer in patient who had normal renal function (normal arm) than patient with occurring AKI after first line chemotherapy (5.8 vs 4.4 months, p=0.024). OS was also longer with normal arm (13.4 vs 7.8 months, p<0.0001).

Conclusions
Our results showed that AKI occurred continuously even after chemotherapy. Moreover patients who occurred AKI after chemotherapy had shorter OS and PFS.

eP452

APPLICATION OF TOPICAL IMIQUIMOD FOR TREATMENT CERVICAL INTRAEPITHELIAL NEOPLASIA IN YOUNG WOMEN: A PRELIMINARY RESULT OF A PILOT STUDY

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Introduction
In young women, especially nulliparous, it is not easy to decide on excisional therapy for cervical intraepithelial neoplasia (CIN).

Objectives
We aimed to evaluate how effective topical imiquimod is in the treatment of high-grade CIN so that excisional therapy can be avoided in young women.

Methods
Patients with CIN were allocated to this pilot study. They agreed with topical imiquimod therapy with once-a-week hospital visit for 8 weeks for the application of imiquimod to the cervix by a gynecologic oncologist.

Results
A total of 36 patients with a median age of 29 years (range, 22–41 years) agreed to receive topical imiquimod therapy. Of these, 32 patients (88.9%) were positive for high-risk human papillomavirus (HR HPV). Twenty-five patients (69.4%) had low-grade squamous intraepithelial lesion (LSIL), and 11 (30.6%) had high-grade squamous intraepithelial lesion (HSIL) on their initial LBC. Twenty-eight patients underwent punch biopsy, which showed CIN 1 in 7 (19.4%), CIN 2 in 11 (30.6%), and CIN 3 in 10 (27.8%) patients. On the last examination, 14 patients (70.0%) had negative intraepithelial lesions, 3 (15.0%) had atypical
squamous cells of undetermined significance, and 1 (5.0%) had LSIL. Two patients had persistent HSIL: 1 patient underwent excisional therapy, resulting in CIN 3 with positive resection margin, and the other patient underwent punch biopsy, resulting in intermediate cells and restarted imiquimod therapy. Seven patients were negative for HR HPV.

Conclusions
This study showed that topical imiquimod therapy was effective for the treatment of high-grade CIN, with 85.7% (14/20) histologic regression rate and 25.0% (8/32) HPV eradication rate.

eP453
EFFECTIVENESS OF JAPANESE KAMPO IN CHEMOTHERAPY INDUCED SIDE EFFECTS ABOUT BREAST CANCER PATIENTS
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Introduction
Chemotherapy induced side effects not only reduces patients QOL but also significantly interferes with the completion of cancer chemotherapy. However, there are few effective strategies to treat side effects. The Kampo, herbal medicine in Japan, are already blended, packed, and need not be compounded every time, each patients, thus it is often used in Japan.

Objectives
The usefulness of traditional Japanese herb medicine, Kampo, were analyzed for the management of each side effects.

Methods
From 2011 to 2015, we picked up patients who were receiving hormone therapy or chemotherapy in breast cancer, and also receiving prescription of Kampo medicines. Then we analyzed what kind of prescriptions were used in each side effects.

Results
The past five years, almost 80 patients received Kampo during the therapy. Most patients received Goshajinkigan to reduce peripheral neuropathy. Some patients received Goreisan to reduce edema, or leg pain. Hangeshasintou was prescribed for mucous membrane disorder such as gastritis or stomatitis. For general fatigue, or appetite loss, patients were prescribed Hochuekkitou, or Rikkunshitou. Liver damage was treated with Morinagin. For mucous membrane disorder, patients were prescribed Hangeshasintou. Ear pain was treated with Shuastabil. A patient with leg pain was treated with Rikkunshitou. The usefulness of traditional Japanese herb medicine, Kampo, were analyzed for the management of each side effects.

Conclusions
Effects of Kampo to reduction of side effects were observed. Each prescriptions were used in different side effects.

eP454
EXPOSURE OF UNDERGRADUATE MEDICAL STUDENTS TO THE SOCIAL DIFFICULTIES OF CHILDHOOD CANCER, DOES IT MAKE AN IMPACT?
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Introduction
Exposing medical students to social difficulties of disease, even before they are qualified clinicians, they hone integral communication skills, develop a more empathetic attitude towards their patients’ struggles, and learn to take a positive approach towards their medical conditions.

Objectives
To expose undergraduate medical students to social difficulties and sufferings of children afflicted with cancer, their families from a financial, psychological, social and emotional perspective by starting a medical student-driven, pediatric oncology supervised foundation, and to assess its impact in a teaching university.

Methods
MedHope is a non-profit, non-governmental organization at Sri Ramachandra Medical College and Research Institute by MBBS students under the guidance of the pediatric oncology faculty. MedHope tries to help cancer-affected children through fundraising events; social awareness seminars, blood donation and ‘Adopt a Child’ initiative.

Results
A survey conducted recently among medical students showed that 60% of them wanted to voluntarily participate in these activities. Among these, 75% were interested in blood donation, 60% in conducting fundraising and awareness programmes. 77% of them felt that being a part of such student support groups has helped them to become more patient-oriented, and that awareness of their patients’ psychosocial issues would contribute to their patients’ effective management.

Conclusions
While clinical skills are important for patient care, students should be exposed to social aspects of medicine, and should be educated about cultural difficulties of treating a disease, which will change their attitude towards patient management, instilling values of humanity. Medhope, and similar organizations will certainly be a model and paragon for India.

eP455
AN APPROACH TO SERVICE DEVELOPMENT AND RESEARCH IN A LARGE AUSTRALIAN CANCER CENTRE TO IMPROVE THE INTEGRATION OF SUPPORTIVE CARE AND INTEGRATIVE ONCOLOGY
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Introduction
A multimodal supportive care personalised strategy to improve wellbeing of cancer patients can be enriched by incorporating evidence-based medical, psychotherapeutic, exercise therapies and non-invasive complementary therapies.

Objectives

To present an approach to service development and research in a large Australian cancer centre to improve the integration of supportive care and integrative oncology.

**Methods**

A pilot study preliminary data will be presented looking at the feasibility of a multimodal supportive care intervention incorporating supportive cancer care medical consultation exercise prescription, nutritional assessment and non-ingested, non-invasive integrative therapies and psychotherapeutic interventions for people receiving disease modifying therapy with metastatic cancer.

Presenting a service development strategy for our supportive care service model with over 16 integrative oncology practitioners and allied health using multidisciplinary medically facilitated case conferences, incorporation of standardised outcome measures and development of research and education as strategies to enhance integration of supportive care in a large, busy cancer centre in Australia.

**Results**

Preliminary results from a pilot study evaluating the feasibility of a supportive care multimodal program. Outcome measures, such as ESAS –FS inform practice and facilitate multidisciplinary referral. Data from the past 12 months showing the positive impact of the introduction of a supportive care specialist, research and education to the integrative oncology service from Chris O'Brien Lifehouse Cancer Centre will be presented and exploration of ongoing challenges.

**Conclusions**

Strategies to improve holistic supportive cancer care are being implemented with Integrative oncology being developed as part of a supportive cancer care service. Ongoing collaborative research will assist in service development and integration.

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**eP456**

**DEVELOPING AN INTEGRATIVE ONCOLOGY AND SUPPORTIVE CANCER CARE SERVICE IN AUSTRALIA: A MODEL PROGRAM FOR FUTURE SUPPORTIVE CARE CANCER SERVICES.**

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**Introduction**

People living with cancer often seek complementary therapies outside of their place of cancer therapy to enhance wellbeing. These therapies and therapists provide care independent and often without communicating with the treating oncology medical team. Increasingly cancer services are incorporating integrative oncology services within their facility to enhance the evidence based, holistic care of their patients and meet patient expectations. In 2013 the Chris O'Brien Lifehouse cancer care centre opened with a strategy to develop an integrative oncology service. Growing evidence into the use of integrative therapies is providing viable alternatives to approaching and managing difficult to control symptoms related to cancer and its therapy.

**Objectives**

To present an overview of the development of the integrative oncology service at Chris O'Brien Lifehouse; lessons learnt and how common side effects from chemotherapy and targeted therapies are treated by a multidisciplinary team of medical and complementary care practitioners coordinating care through case conferencing and collaboration.

**Methods**

A descriptive approach of the structure service will be presented. The process of care will be described and illustrated using several case studies.

**Results**

The development of a model of integration of care for patients with cancer coupled with development of a system of outcome measures, case review, research and education together with a tenor of care that creates a caring environment is encouraging the growth an development of the service.

**Conclusions**

Integrative oncology at Lifehouse is a potential program model for future supportive care cancer services.

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**eP457**

**AURICULOTHERAPY IN RADIO-INDUCED XEROSTOMIA: A CLINICAL STUDY IN PATIENTS WITH HEAD AND NECK CANCER**

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**Introduction**

Xerostomia is a symptom associating mouth dryness with functional hyposialia/asialia. It impacts quality of life (QoL) after radiation therapy. There is no optimal pharmacological treatment to date. Auriculotherapy is a western countries acupuncture technique that could have a positive impact in the treatment of xerostomia.

**Objectives**

To retrospectively evaluate the efficacy of auriculotherapy in the treatment of radiotherapy-induced xerostomia in head and neck cancer patients.

**Methods**

The efficacy on hyposialia was evaluated with measures of the sugar dissolution time (SDT). A normalization was
defined as ≤ 300 seconds. The evolution of the symptom was estimated with a linear regression. The number of sessions required to obtain a 50%-reduction in SDT was calculated (50%Naur). QoL was estimated with the Xerostomia Inventory (XI) questionnaire.

Results
15 patients were analyzed: Mean age 70, 60% males, mean number of auriculotherapy sessions was 7 (4 to 13). No patient had been previously treated by auriculotherapy. 93.3% of patients (14/15) improved their SDT; 73.3% normalized.

Median 50%Naur was 7 (4 to 19). 66.7% showed a significant improvement in their quality of life ie. a ≥+6 increase in XI score (+7 to +21). 25% showed a non-significant improvement: +4, +4, and +1. 50%, 41.7%, and 8.3% declared symptom improved, much improved, or very much improved, respectively. 100% of patients would recommend auriculotherapy. Decreased SDT was associated with improved QoL.

Conclusions
Auriculotherapy may be an efficient treatment of xerostomia, with no side-effects expected. Further studies are needed to prospectively assess its efficacy, and determine the optimal time and schedule of the sessions.

eP458
MAKING THE LAW WORK BETTER FOR PEOPLE AFFECTED BY CANCER
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Introduction
Law plays a key, if not always visible, role in shaping experiences and outcomes for people affected by cancer and their families. Cancer Council Victoria and the McCabe Centre for Law and Cancer received two major grants from the Victorian Legal Services Board for the Making the law work better for people affected by cancer project.

Objectives
To:
- map and analyse ways in which law impacts on experiences and outcomes for people affected by cancer, carers and health professionals;
- improve understanding of legal rights/responsibilities for people affected by cancer, carers and health professionals;
- educate policy-makers about ways in which the law can be clarified and reformed to better support people affected by cancer, carers and health professionals; and
- support Victorians affected by cancer by improving access and equity in treatment and support during and after cancer treatment.

Methods
The following key areas of law and policy were identified, mapped and analysed:
- regional patient access to treatment
- employment law
- access to insurance and superannuation
- end-of-life law
- informed consent
- regulation of complementary and alternative therapy providers

Results
- Successful joint advocacy for improvements to regional patient access to treatment and earlier access to superannuation.
- Ongoing advocacy for end-of-life law reform and stronger regulation of unregistered health practitioners
- Development of suite of educational resources for patients, carers, health professionals, including webinars.
- New evidence of patients’ experiences of informed consent

Conclusions
Examining cancer care and survivorship through a legal lens provides opportunities for improving experiences and outcomes for people affected by cancer and carers.

eP459
HOSPITAL DISCHARGE ORGANIZATION IN ONCOLOGY: IMPLEMENTATION AND ASSESSMENT OF THE USE OF THE TRAJECTOIRE SOFTWARE
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Introduction
To optimize the management of cancer patients, an efficient organization of hospital discharge is required, especially transfers from health care facilities to institutions that provide follow-up care and rehabilitation, or palliative care unit

Objectives
In this context, since June 2012, the French National Authority for Health (HAS) software Trajectoire has been used as an interface in our hospital

Methods
Data concerning transfer requests and the average length of stay (ALOS) of patients from units of our hospital were compared from January 2010 to May 2012 (before the use of Trajectoire) and from June 2012 to December 2014 (since the use of Trajectoire) in order to assess the impact of the software on the outcome of transfers

Results
Before using Trajectoire, rates of successful transfers (ST) per request were 26.2% (294 ST for 1124 requests). Since
the use of Trajectoire, the rates of ST have decreased to 15.7% (279 ST for 1716 requests, p<0.001).
The rates of ST per patient were 63.2% (294 ST for 465 patients). Since the use of Trajectoire, these rates decreased to 56.7% (279 ST for 492 patients, p<0.040). The ALOS has significantly been lower since the use of Trajectoire: 3.1 days against 3.5 days (p<0.001). The average time of response of the host units was 2.18 days in 2014.

Conclusions
The rate of transfers after hospital discharge could not be improved, in our study, through the use of Trajectoire. Anyway, the short average time of response of host units shows that Trajectoire has an influence on the decrease in ALOS.

eP460
PREDICTORS OF ANXIETY AND DEPRESSION AMONG CANCER PATIENTS IN A TERTIARY CARE TEACHING HOSPITAL
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Introduction
Anxiety and Depression are becoming an increasing alarm in cancer patients because of its impact on quality of life (QoL). Although risk factors of having anxiety and depression have been examined in the literature, there has been no research examining these factors among Indian cancer patients.

Objectives
The objective of the study is to estimate the predictors of anxiety and depression among cancer patients in a tertiary hospital.

Methods
A cross-sectional study was conducted for a period of 6 months in the Oncology department. The Hospital Anxiety and Depression scale, European QoL questionnaires (EQ-5D and VAS), fatigue and pain scale, demographic and disease were collated from the patients. Multiple logistic regression was performed to identify the predictors and a p-value < 0.05 was considered statistically significant.

Results
A total number of 129 patients were assessed for the predictors of anxiety and depression among cancer patients. Out of 129 patients, female patients (n=69) outnumbered the male patients (n=60) and the mean age of the patients was 47.14 ± 12.11. The majority of the patients were Breast cancer (n=19) and Acute lymphoblastic leukemia (n=15). The mean HAD scores was 8.1 and 8.3. Twenty-one percent of patients reported depression and 17% reported anxiety.

The mean VAS and EQ-5D utility scores was 51.78 ±11.12 and 0.54 ± 0.21.

Conclusions
The present study results reveals that older age, female gender, poor family relationship, decreased QoL and VAS, presence of pain and fatigue (odds ratios(OR) ranged from 0.7121-1.015 and p<0.05) were the predictors of anxiety and depression.

eP461
FRAMELESS STEREOTACTIC RADIOSURGERY FOR BRAIN METASTASES: A REVIEW OF OUTCOMES AND PROGNOSTIC SCORES EVALUATION
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Introduction
Stereotactic brain radiosurgery (SRS) was demonstrated to provide good local control in patients with oligo-brain metastases. Newly developed frameless system allows pain-free treatment.

Objectives
we reviewed the effectiveness of frameless SRS and identified prognostic factors

Methods
Medical records of patients with brain metastases treated with frameless SRS in Prince of Wales Hospital, HK SAR in Jan 2010-July 2015 were reviewed. Outcomes including local (LCR) and distant brain control rate (BCR), progression free survivals (PFS) and overall survival (OS) were analyzed. Prognostic factors were identified with univariate and multivariate analyses. Correlation with available prognostic scores was evaluated.

Results
Sixty-six patients with 101 lesions were treated with LINAC-based frameless brain SRS with single dose of 12-24gy. The median follow up was 11.5 months. One year actuarial LCR was 72% and BCR was 71%. Four patients (6.1%) suffered from acute brain edema, with 1 had convulsion. Eight patients (12.1%) became steroid-dependent. Eight patients (12.1%) had breakthrough seizure after a median time of 10.5 months. The median OS was 13.01 months. Brain PFS correlated significantly with KPS (> 50 vs ≤ 50) (p=0.011, HR=0.425 95% CI 0.219-0.825) and number of brain metastases (1 or 2 vs > 3) (p=0.003, HR=0.557 95% CI 0.400-0.832). Steroid use and becoming steroid-dependent were associated with worse OS (p=0.037 and p=0.000046). Patients with >3 lesions without concomitant whole brain radiotherapy (WBRT) had worse brain PFS (p=0.042). OS correlated significantly with BSBM, SIR, GPA and DS-GPA grouping.

Conclusions
eP462

WHICH PROBLEM MADE CANCER PATIENTS VISIT EMERGENCY DEPARTMENT?
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Introduction
Patients with cancer have various symptoms. Emergency department (ED) is a medical treatment facility specializing medicine in the acute care of patients who may have illnesses some of which may be life-threatening and require immediate attention. However, many cancer patients visit ED because they do not know how to cope with newly developed symptoms or signs. Crowding of ED may disturb appropriate acute treatment.

Objectives
We designed this study to identify which problem made cancer patients visit ED.

Methods
We made list of consecutive patients who visited ED of Pusan National University Yangsan Hospital and consulted to medical oncology department from August to November of 2015. Medical charts were analyzed by retrospective review.

Results
One hundred and seven consecutive patients were identified during set periods. Median age is 64 (29-85) years and consists of 58 males and 49 females. The patients were first time visit ever in our hospital (n=16, 38.3%), consulted first time to oncology department (n=26, 24.3%), or returning patients (n=66, 61.7%). Common cancer diagnosis were colorectal (18.7%), biliary (18.7%), gastric (11.2%), and lung (11.2%). The top 5 problems that made cancer patients visit ED were infection (22.4%), pain (13.4%), obstruction of bowel or urinary tract (11.2%), cancer (8.4%), and chemotherapy toxicity (8.4%). Significant portion of patients (11.2%) visited ED for diagnostic workup of cancer.

Conclusions
Public education about proper use of emergency medical system and appropriate pain and symptom control may reduce ED visit of cancer patients.

eP463

A COMPARISON OF TWO QUEENSLAND REGIONAL CANCER CARE ALLIED HEALTH (AH) WORKFORCE MODELS
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Introduction
New workforce models including skill sharing between professions and delegation to assistants may assist regional cancer care services to address increasing service demand.

Objectives
Examine two regional AH cancer services for type and frequency of task delivery and the decision to delegate and/or skill share tasks.

Methods
Clinical task information was collated from workforce redesign projects implemented using the Calderdale Framework in two Queensland regional cancer care services, including one service delivered at facilities in two separate regional centres. Descriptive statistics were used to analyse the consistency between services regarding:
- clinical task frequency (weekly or more frequent considered ‘high frequency’ and less frequent than once/week considered ‘low frequency’), across three facilities, and
- the decision to delegate and/or skill share tasks for the sixty-three tasks that were analysed by the two services.

Results
The total number of clinical tasks identified was 214, with 194 (91%) tasks being common to all three sites. Task frequency was consistent across three facilities for 46% of tasks. Agreement between the two services with regard to the appropriateness of task delegation was 65% and skill sharing was 63%. Decision-making varied across professions and clinical areas.

Conclusions
Between two regional cancer services with similar staffing establishments and clinical scope, there was moderate variation found with regard to clinical task frequency and the decision to delegate and/or skill share tasks. Local service, workforce and organisational factors have a significant impact on determining workforce models and highlight the importance of team engagement in planning processes.

eP464

CANCER-RELATED AWARENESS AND HEALTH PRACTICES AMONG THE URBAN SRI LANKAN COMMUNITY
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Introduction
Awareness and health practices among the urban SRI LANKAN community.
In 2013, 25,000 Sri Lankans were diagnosed of cancer with 14,000 reported deaths. Moreover the incidence of cancer is observed to be increasing gradually by an average of 15,000 new cases annually.

**Objectives**

To assess the basic knowledge of cancer and its relationship to health-seeking behavior among the among the urban public.

**Methods**

A descriptive study was done on 467 urban dwellers in Sri Lanka, who were selected through convenience sampling using an online self-administered questionnaire.

**Results**

Adolescents (13–19 years) knew most (71.09%) whilst 40-65 years knew least (42.42%) regarding signs. Adolescents had the highest awareness (71.88%) regarding risk factors while 40-65 years; the least (42.42%). Only 60.85% and 20.99% identified family history and viral infection as risk factors respectively. 78.43% adults (more than 65 years) and 42.19% adolescents were not aware of preventable cancers. 40-65 year adults had the highest awareness regarding HPV (Human Papillomavirus) vaccination (31.06%). The population was more aware of screening for breast cancer (30.82%) than for prostate cancer (14.64%). If faced with a cancer symptom, 65.63% adolescents reported they would make an appointment within a month, whereas 52.94% adults (more than 65 years) would go as soon as possible. 92.42% 40-65 year olds would avoid consultation since they have other worrisome problems, while 76.56% adolescents avoid because they are worried about their diagnosis.

**Conclusions**

Generally adolescents had more cancer-related knowledge than other groups. However the 40-65 group displayed most cancer-related health practices (e.g. screening) among the population.

**eP465**

IMPLEMENTING OPTIMAL CANCER CARE PATHWAYS; LESSONS LEARNT FROM THE EVIDENCE TO IMPROVE CANCER CARE OUTCOMES: A SYSTEMATIC REVIEW

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**Introduction**

Contemporary evidence-based best practice guidelines for optimal cancer care in Australia will soon be available. While many care providers have access to evidence-based guidelines, cancer care remains fragmented, uncoordinated, and inconsistent. This results in poor outcomes for people with a cancer diagnosis and increased healthcare burden.

**Objectives**

A systematic review to identify the best available international literature on the translational impact of optimal cancer care pathways to improve cancer care outcomes.

**Methods**

A comprehensive search was followed by the selection and identification of relevant research describing effective implementation, sustainability, and evaluation of cancer care pathways. Included papers were appraised for methodological quality and relevant data extracted for synthesis. Where statistical analysis was not possible due to heterogeneity between studies, results were presented in narrative form.

**Results**

Results around the effectiveness of current models of optimal cancer care pathways as well as patients' satisfaction with the models of care that they have received were extracted. The national and international literature identified that the adherence to optimal cancer care pathways results in increased coordination of care, consumer engagement, in addition to recognising the challenges for ongoing review and evaluation.

**Conclusions**

The outcomes of the review have the potential to inform strategies to implement optimal cancer care pathways directly and lead to improved confidence and ability among clinicians in delivering and adhering to best practice resulting in improved outcomes. This will translate into more consistent, effective, and efficient cancer care that minimises delay, omission, and duplication and ultimately better outcomes for people diagnosed with cancer.

**eP466**

STEREOTACTIC RADIOSURGERY (SRS) +/- WHOLE-BRAIN RADIOTHERAPY (WBRT) FOR THE TREATMENT OF BRAIN METASTASES: A PATIENT PREFERENCE STUDY

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**Introduction**

The optimal management for limited, non-resectable brain metastases is controversial. Randomized trials have shown no survival difference between radiation treatment with SRS and SRS + WBRT.

**Objectives**

A patient-centered approach is utilized to elicit patient preferences and understand what factors patients consider important in deciding which treatment to pursue.

**Methods**

All patients were presented with a decision board instrument summarizing the two treatments and known evidence regarding disease control and toxicities. Patients could either take an active or passive role in decision making. If taking an active role, they could choose to receive SRS alone, or SRS + WBRT. Patients also completed a debriefing questionnaire to rank from 0-10 how important 10 factors were in making their decision.

**Results**

Between two cancer centers in Canada and USA, all enrolled patients took an active role. 21/23 patients chose SRS alone and 2/23 patients chose SRS + WBRT. From the debriefing questionnaire, the highest ranked factors were quality of life (avg = 9.4, SD = 1.03), functional independence (avg = 9.3, SD = 0.83) and influence of treatment on survival (avg = 9.2, SD = 1.87). The least
Important factor was number of trips required to the cancer center (avg = 5.0, SD = 4.22).

Conclusions
A patient-centered approach to decision making in brain metastases treatment is feasible. Most patients will choose to take an active role in management and prefer SRS alone. Patients rank quality of life, functional independence and influence of treatment on survival as most important in making their decision.

EPI67

PRELIMINARY RESULTS OF THE PROSPECTIVE, MULTICENTER OBSERVATIONAL ASSESSMENT PROGRAM POPULATION OF PATIENTS WITH DRUG-INDUCED LIVER INJURY (DILI) DUE TO CHEMOTHERAPY, RECEIVING SAME IN RUSSIA. A. Snegovov1, V. Levchenova1, P. Zeinalova2, L. Manzyuk1, K. Julia3, K. Lali4
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Introduction
To characterize the population of patients with chronic liver diseases with the development of DILI due to chemotherapy. In the same patient population in the development of DILI, we evaluated the efficacy of therapy SAMe (Geptral®).

Objectives
The study included 9 centers in the Russia (Moscow, Ufa, Tomsk, Penza). It was a non-interventional, prospective, single-group, multicenter surveillance program, which studied the use of SAMe standard scheme. All patients receiving cancer treatment. The program included and analyzed the data of patients that meet the following criteria: a chronic liver disease due to chemotherapy when DILI, with laboratory and clinical data, aged 18 to 65 years. The patient was prescribed SAMe in accordance with the instructions of a registered medical use. The observation period was 6 weeks. Visit to follow-up about 72 days and 30 days after the last dose SAMe.

Methods
In order to describe the population of patients with DILI we collected demographic data, specified underlying liver disease in each patient, as well as manifestations of the doldrums and asthenic syndrome. Also we studied changes in laboratory parameters of liver function.

Results
Positive dynamics of ALT, AST, AP, GGT, bilirubin, accompanied by the improvement of well-being (fig.1). In assessing the doldrums and asthenic syndrome noted that the important point is the duration of the reception SAMe.

EPI68

THE INITIAL DEVELOPMENT OF A TOOL TO ASSESS THE NURSING PROFESSIONAL INFORMATIONAL NEEDS FOR PATIENTS WITH CANCER IN CHINA
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Introduction
Various professional informational needs of cancer patients are stimulating identification of the needs amount. However, health professionals tend to underestimate this informational need. The comprehensive assessment of patients’ informational needs is prerequisite for health professionals to provide corresponding care.

Objectives
To develop and test the psychometric properties of the nursing professional informational needs scale (NPINS).

Methods
The study employed a cross-sectional design. The 18-item NPINS, a self-report measure for assessing the amount of informational needs from nurses, was administered to 563 Chinese patients with cancer from five hospitals in two cities of Anhui Province during May to October 2014. The process of item development and psychometric tests of the NPINS was tested.

Results
The content validity was good, as evaluated by two rounds of expert review. Exploratory factor analysis (EFA) (n=309) revealed three factors replicating the factorial structure of the original NPINS (illness diagnosis needs, treatment and nutrition needs and self-management information needs) accounting for 53.588% of the total scale variance. Cronbach’s α of the total scale and domains ranged
Introduction
Geographically there are 1.3 Million people living in the Sydney Southwest area. Liverpool Hospital Cancer Therapy Unit has a long waiting period for patients requiring chemotherapy. Discussions have occurred between the public and private hospitals to establish a satellite chemotherapy clinic for privately funded patients.

Objectives
The objectives of the unit are to provide immediate chemotherapy treatment to privately funded patients in order to reduce patient load for Liverpool Public Hospital Cancer Therapy Centre hence reduce waiting periods and still provide quality patient care.

Methods
Establishment of the unit was formulated by a working party consisting of the Head of Medical Oncology Liverpool Hospital Cancer Therapy Centre, General Manager: Sydney Southwest Private Hospital, the Director of Nursing and Clinical Nurse Specialist 2. Structures needing to be sourced included accreditations for Medical Oncologist to treat patient at the private hospital; licensing for the unit; protocols and procedures had been developed by the CNS2 thru networking to some other hospitals; both public and private. Equipments to be purchased; locates, organise a working agreement with blood collection agency that can provide patient urgent blood result within 1 hour time.

Results
Establishment of a unit that is able to treat cancer patients that requires immediate chemotherapy that is privately funded with no out of pocket costs and still provide quality care. Liverpool Hospital reduced patient loads & long waiting periods.

Conclusions
Helped the privately funded patient to have treatment with no waiting period; still have quality care and with the benefit of all resources at public setting.

HOSPITAL VOLUNTEERS’ SERVICE FOR PATIENTS IN JAPAN
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Introduction
It is common that volunteers provide service including physical touch, called “therapeutic care” and “socio-aesthetics”, inside hospitals in the US and Europe. According to British Red Cross, volunteer is essential to care people in a crisis. Meanwhile, volunteers’ service including physical touch has been rarely seen in Japan for too much concern about its risk. Our country has short history of volunteer and it is not generally allowed that non-medical careers touch the patients in the hospital.

Objectives
The object of this study is to assess the safety and contribution of volunteers’ service for patients.

Methods
We began volunteers’ service including hand-massage, nail-care and so on in one university hospital in Tokyo, Japan. The satisfaction of the patients was assessed by the questionnaire.

Results
In 2015, a total of 324 patients received the volunteers’ service and there was no problem about the safety. Among the 260 patients who answered the questionnaire, 245 patients (98.3%) answered “Very satisfied” or “Satisfied”. In addition, 244 patients (98.3%) answered that they wanted to receive the service again.

Conclusions
This study showed the safety of the volunteers’ service including physical touch. It also showed that 98% of the patients were satisfied. Moreover, it was suggested that such service assisted even in pain and stress relief in the narrative; “I felt escaped from the disease”. It is necessary for Japanese medical personnel to place more trust in volunteers and use their skills actively, so that our patients could receive benefit from volunteers.
hospice pre-establishment medical autonomy plan were explored.

**Objectives**

It is expected through the regularly held advocacy of the hospice pre-established medical autonomy plan, patients’ families in the hospital, volunteers in medical units, and patients in nursing homes will be able to fully understand the scope and efficacy of the pre-established medical autonomy plan as well as its essence.

**Methods**

The qualitative research was adopted in this study, specifically interviews. The patients’ families in the hospital, volunteers in regular medical units, and patients in nursing homes gained an insight into the situation, doubts, and fears over the pre-established medical autonomy plan through the regularly held pre-established medical autonomy plan.

**Results**

50% of the patients that participated in the research realized they could have control of their own destiny and lessen the burden on their loved ones in case futile medical treatment took place; 30% of the respondents said they refused any kind of medical treatment due to fear and misunderstanding; up to 70% or 80% of the respondents said it was a medical measure intended to protect oneself and cherish family members, therefore they would offer assistance in the advocacy if needed.

**Conclusions**

same result

eP472

**EFFECTS OF BANHASASIM-TANG ON CISPLATIN-INDUCED APOPTOSIS OF HUMAN A549 LUNG CANCER CELLS**

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**Introduction**

This study was aimed at examining the synergistic effects of Banhasasim-tang extract (BSTE) on cisplatin-induced cytotoxicity in the A549 human lung cancer cell line. Cisplatin is the most widely used anticancer drug for the treatment of lung cancer. However, the high dose required for treatment with cisplatin leads to numerous side effects including nausea and vomiting. BST is widely known to decrease nausea and vomiting in Asia.

**Objectives**

Therefore, we hypothesize that cisplatin plus BST could improve the response of patients and results of treatment with this anticancer drug. A549 cells were treated with varying concentrations of cisplatin and BSTE alone or in combination for 96 h.

**Methods**

We used the 1-(4,5-dimethylthiazol-2-yl)-3,5-diphenylformazan assay and flow cytometry to analyze cell viability and apoptosis, respectively.

**Results**

We found that the exposure of cells to cisplatin and BSTE alone or in combination decreased cell viability dose- and time-dependently, which was found to be mediated by the apoptotic pathway as confirmed by the increase in the annexin V/propidium iodide stained cell population and a ladder pattern of discontinuous DNA fragments. Furthermore, the apoptosis was inhibited by the pan-caspase inhibitor, benzyloxy carbonyl-Val-Ala-Asp (OMe) fluoromethylketone (z-VAD-FMK).

**Conclusions**

In conclusion, BSTE significantly potentiated the apoptotic effects of cisplatin in A549 cells. Moreover, the apoptosis induced by BSTE may be the pivotal mechanism mediating its chemopreventative action against cancer.

eP473

**PREVALENCE OF BURNOUT, SATISFACTION WITH WORK-LIFE BALANCE AND CAREER IN CHINESE ONCOLOGISTS: RESULTS OF A NATIONAL SURVEY**

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**Introduction**

The prevalence of burnout, satisfaction with work-life balance and career of Chinese oncologists was unknown.

**Objectives**

To evaluate prevalence of burnout, satisfaction with work-life balance and career of Chinese oncologists.

**Methods**

During attendance at national oncologic meetings, oncologists were asked to complete a questionnaire concerning their feelings of burnout, satisfaction with work-life balance and career. The full-length questionnaire included 56 questions exploring a variety of personal and professional characteristics and using standardized instruments to measure burnout, as well as career and work-life balance satisfaction.

**Results**

1725 oncologists completed the full-length questionnaire. Totally, 923 oncologists (53.5%) were burned out on the emotional exhaustion (38.7%) and/or depersonalization domain (40.1%) of Maslach Burnout Inventory. Multivariate analysis demonstrated significant association between burnout and hours spent on direct patient care. Additionally, 983 oncologists (57.0%) reported low personal accomplishment, which was significantly related to dissatisfaction with incoming and doctor-patient relationship according to multivariate analysis. Notably, the proportion of oncologists satisfied with their career (30.9%) or specialty (44.6%) choice was much lower than that reported for US oncologists in a recent national study (82.5% were satisfied with their career choices and 80.4% were satisfied with their specialty choices). However, there were still 40.4% of the oncologists satisfied with their work-life balance.

**Conclusions**

The rate of professional burnout in Chinese oncologists exceeded 50%. Oncologists who spent more time on direct
patient care were at greater risk for burnout. More importantly, more than half of the oncologists had low personal accomplishment, which might lead to dissatisfaction with career and specialty choices.

eP474
THE CONCATENATION OF MIR-200 FAMILY WITH CLINICOPATHOLOGICAL AND PROGNOSTIC HALLMARKS IN EPITHELIAL OVARIAN CARCINOMA
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Introduction
MicroRNAs have been implicated in the etiology of various human cancers and may be recognized as reliable biomarkers in cancer.

Objectives
The aim of this study was to investigate the association of the expression of three members-miR 200a, miR 200b and miR 200c belonging to the miR-200 family with clinicopathological characteristics and their impact on the progression of epithelial ovarian cancer (EOC).

Methods
Total RNA from serum was isolated by Trizol method, polyadenylated and reverse transcribed into cDNA. Expression levels of miR-200a, miR-200b and miR-200c were detected by using miRNA qRT-PCR. We measured miR expression in 70 serum samples of EOC patients with matched controls using U6 as a reference. Levels of miR expression was compared with disease stage, tumor grade, histology, and lymph node involvement.

Results
Expression of miR-200a was found to be greater than six-fold (p<0.0001), miR-200b greater than three-fold (p<0.0001) and miR-200c greater than four-fold (p<0.0001) in comparison with matched normal controls. Association of miRNA expression with clinicopathological factors and progression was statistically evaluated. The expression levels of miR-200a, miR-200b and 200c were found to be significantly associated with disease progression. ROC curves were used to evaluate the diagnostic and prognostic potential of microRNAs. Kaplan Meier survival curves were used to estimate the overall survival of EOC patients.

Conclusions
Our findings suggest that miR-200a, miR-200b and miR-200c overexpression may promote the aggressive tumor progression and be recognized as reliable markers for diagnosis and to predict the survival in EOC patients.

eP475
COMPARISON OF EFFICACY, SAFETY AND SEDATION WITH TWO DOSES OF ADD ON OLANZAPINE IN CHEMOTHERAPY INDUCED NAUSEA AND VOMITING: A RANDOMIZED CONTROLLED PILOT STUDY.

Introduction
Promising result with olanzapine was found in control of chemotherapy induced nausea and vomiting (CINV) in different studies and thus found its place in NCCN recommendation also. However, sedation was reported by all previous researchers and may be unacceptable to many patients. Therefore, a lower dose of olanzapine needs evaluation in such scenario.

Objectives
To compare the efficacy, safety and sedation produced by two doses of olanzapine in control of CINV.

Methods
This pilot study is a prospective, randomized, double blinded and controlled trial enrolling 100 patients receiving single day cycle of high and moderately emetogenic chemotherapy. Both groups received ondansetron 16 mg on day1 and dexamethasone 8mg from day 1-3. In addition, the test and control group receives olanzapine 5mg and 10mg respectively from day 1-3. CINV in acute, delayed and overall 1-5 days was measured along with daytime sedation. Quality of life (QOL) before and after chemotherapy was measured by FACT G7 questionnaire.

Results
Till the time of this interim analysis, out of total 14 enrolled patients, 10 patients had completed follow up. There was no significant difference in CINV or nausea control in two groups. The test group patients reported significantly low sedation VAS (p<0.05) and 80% of them reported no sedation (VAS<10). Quality of life was better in both groups after chemotherapy.

Conclusions
From the preliminary data, 5mg olanzapine is equally safe and effective to the conventional 10mg/day dose in CINV prophylaxis. Sedation or somnolence was not a problem with lower dose olanzapine.
eP476

CANCER SURVIVOR’S PREFERENCES FOR FOLLOW-UP CARE IN IRELAND: A COGNITIVE INTERVIEW STUDY
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Introduction
With growing numbers of cancer survivors, traditional specialist-led follow-up after prostate or colon cancer treatment is unsustainable. Alternative models of care led by nurses, general practitioners or survivors may have similar patient outcomes and reduced costs. However, survivor preferences for follow-up have not been explored in Ireland, and may influence participation in new models of care.

Objectives
We aim to qualitatively identify patient preferences for alternative models of prostate and colon cancer follow-up in Ireland.

Methods
We conducted cognitive interviews with a convenience sample of prostate and colon cancer survivors, using a draft survey about cancer follow-up to guide discussion. Recruitment continued until no new information about the survey was collected. Verbatim interview transcripts were coded using a deductive approach based on the themes of follow-up covered in the survey: who provided follow-up; continuity of care; and what was covered during appointments. Further in-depth coding is currently underway within each theme, using an inductive approach to identify common preferences.

Results
The 17 survivors interviewed were a range of genders, ages and time since diagnosis. Initial coding suggests widely varying views, with strong preferences for the current model of specialist-led care, and personal experience influencing preferences for what is included in follow-up. Further in-depth coding and analysis will allow more detailed results and interpretive analysis comparing and contrasting between subgroups of participants.

Conclusions
Preliminary analysis suggests some prostate and colon cancer survivors in Ireland may be unwilling to participate in new models of follow-up if their preferences have not been considered during service design.

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Introduction
We have previously shown strong in vivo evidence for the involvement of TLR4 in the development of irinotecan-induced gut toxicity, with genetic absence of TLR4 providing significant protection in a mouse model. Data indicated intestinal barrier disruption and tight junction (TJ) defects as key aspects of TLR4-mediated toxicity.

Objectives
Characterisation of the molecular integrity of TJs and assessment of the impact of CRISPR/Cas9-mediated TLR4 deletion and pharmacological inhibition of TLR4 (TAK-242) on SN-38-induced cell toxicity.

Methods
T84 cells were transfected with the sgRNA construct specific for TLR4 and clonally expanded to derive a TLR4 null T84 isogenic cell line. TLR4 +/- cell lines were grown on polyester membrane transwell supports. Cells were treated with SN38 (2.75μM)±TAK-242 (1μM). Transepithelial resistance (TEER) was measured at 3, 6, 24 and 48h after treatment. TJ proteins and barrier permeability were assessed at 24h. IL-1β secretion will be assessed at 24h using ELISA.

Results
Preliminary data show SN38 treatment decreases TEER (-17.61±9.4%; p<0.0001) and increases FITC-dextran permeability (n=4). Membrane to cytoplasmic translocation of claudin-1, a key TJ protein, was also observed. Secondary analyses, following genetic deletion and pharmacological inhibition of TLR4, are now being conducted to test our hypothesis that TLR4 inhibition will improve TEER and prevent permeability changes.

Conclusions
Comparable TJ defects occur across clinical, in vivo and in vitro models of irinotecan-induced gut toxicity. This provides a unique opportunity to study, in detail, the mechanisms that contribute to altered barrier disruption and to explore TLR4-targeted therapeutic options to reduce chemotherapy induced gut toxicity.

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A NEW APPROACH TO INVESTIGATE THE THERAPEUTIC IMPACT OF TOLL-LIKE RECEPTOR 4 (TLR4) IN A MODEL OF CHEMOTHERAPY-INDUCED GUT TOXICITY

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