

subjective experience, which is exacerbated by fatigue, anxiety and negative expectations of treatment. Studies show that, in addition to antiemetic drugs for nausea, it is important the way in which the patient is introduced to treatment through requisite information and training. A calm environment in combination with professional care plays a major role in the treatment of nausea in cancer therapy. Whatever the reason, it is essential to stop the nausea in order to prevent future complications, ease suffering and enhance well-being.

**Methods:** The aim was to develop general clinical guidelines in an effort to prevent and relieve nausea and/or vomiting.

An evidence group is a working group with nurse specialists that meets on a regular basis to review evidence-based literature and to formulate and implement guidelines. Today, there are nursing guidelines for cancer-related fatigue, nausea/vomiting, diarrhea and constipation. Work is in progress regarding the symptoms (e.g., anxiety and insomnia) that are known to be associated with cancer disease and treatment.

**Results:** Guidelines for the management of nausea associated with cancer with or without oncological treatment are under development. For assessment of the expected needs and the optimization of antiemetic therapy, it is important to assess the risk already at the time of the first treatment episode. To improve opportunities to prevent and treat nausea and/or vomiting a simple tool – a symptom diary for nausea and vomiting – is used in which the patient describes his or her symptoms.

The nurse gives instructions in the form of oral and written information on how patients themselves can prevent or relieve nausea and/or vomiting. The nurse documents the results of the patient's medical history, risk assessment and the patient's diary. At the next visit, follow-up and evaluation will take place and a reassessment is made.

**Conclusion:** The Evidence group will continue to work regarding symptom management. This type of work provides safe, secure and standardized care. Furthermore, the patients' involvement in symptom management is highly visible. Documentation of how patients respond to antiemetic treatment in the form of a diary about their nausea is essential to ensure that the clinic's guidelines for treatment are functioning optimally.

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POSTER

#### Prevalence and Severity of Chemotherapy Related Symptoms and Complications With Inpatient Chemotherapy

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**Background:** Complications of inpatient chemotherapy (ICT) can cause a threat to the continuity of cancer treatment and can have an impact on quality of life. The aim of our prospective study was to determine the prevalence, the type and the severity of chemotherapy related symptoms (CRS) and complications (CRC) due to standard ICT for solid tumours. Furthermore we wanted to study a possible association between experienced subjective CRS and the severity of observed CRC.

**Material and Methods:** At the start of every ICT cycle patients (pts) filled in a symptom list. This list contains 14 frequently occurring CRS (anorexia, nausea, vomiting, constipation, diarrhea, stomatitis, fatigue, pain, tinnitus, tingling, worrying, sleeplessness, feeling tense, anxiety) on a 0–10 scale. We defined moderate to severe CRS, when scored >4. The occurrence of 14 possible CRC and possible treatment adaptations were registered by the clinical nurse specialist by using data from the medical record.

**Results:** From February 1st until December 1st 2010, 90 pts received 279 ICT cycles of 13 different ICT regimens (82.8% cisplatin based), with a median of 3 ICT cycles. Before and after the first ICT cycle, 80 pts registered a median of 2 moderate to severe CRS. Before and after the first cycle 56% resp. 65% reported 1 or more symptoms >4 (mean 3.5 resp. 3.2), with a correlation (Spearman's rho/rs) of 0.42 (p 0.000). The correlation between moderate to severe CRS and CRC after the first cycle was rs 0.34 (p 0.02). Pts suffering from moderate to severe CRS were confronted with an extra or prolonged hospital stay in 16% of the cases and with treatment adaptation in 14% of the cases. After the first cycle 70% of the pts had a total of 156 CRC, resulting in treatment adaptation in 28%: delay (12%), definitive treatment stop (10%) or substitution of a cytostatic agent (6%). After the first cycle 24% of the pts had a prolonged hospital stay or an extra hospital admission, due to CRC. Most CRC leading to treatment adaptation after the first cycle were: renal impairment (14 out of 18 cases) and anamnestic decreased oral intake (11 out of 21 cases).

**Conclusions:** Pts treated with ICT suffer from CRS and CRC frequently. With 28% of the pts these CRS and CRC lead to adaptation of treatment or to hospital admission.

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POSTER

#### Sleep-wake Disturbances in Patients With Cancer and Informal Caregivers – the Added Value of a Dyadic Approach in Their Assessment and Management

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**Background:** Over the past twenty years, research has established that people with cancer are in risk of widely disrupted sleep patterns, regardless of the type or stage of disease, or phase of treatment. In spite of the dearth of evidence, sleep of caregivers of patients with cancer also becomes disrupted. One characteristic of the current sleep research is its exclusive focus on the individual; however, recent evidence confirms the shared nature of cancer experience.

**Methods:** A systematic review of the literature was conducted, which identified only one study concurrently describing sleep patterns in patient-caregiver dyads, as well as six methodologically diverse studies conducted in non-cancer populations.

**Results:** As patients and caregivers go through the experience of illness together, their emotional reactions and distress affect one another in a relatively proportionate manner: they add to one's own concerns and worries when they reach a peak, possibly resulting in corresponding changes in the dyad's sleep patterns. Similarly, effective or dysfunctional coping strategies of the dyad might co-affect their sleep through a psycho-behavioural mechanism. While it is reasonable that patient symptom distress can lead to increased caregiving effort, disrupted caregiver sleep patterns and increased fatigue coupled with daytime sleepiness, increased caregiver burden can equally lead to poor caregiving performance, which might in turn inhibit management of patient symptoms affecting sleep. As well, although not all patients and caregivers share the same bed or the same room, co-sleeping or co-habiting dyads might be co-affected by poor sleep hygiene practices or by disrupted sleep patterns related to the illness experience. Such sleep mediators might well interfere with the prerequisites necessary for a good night's sleep at a level that transcends the individual.

**Conclusions:** Drawing on the above arguments, it is assumed that implementation of a dyadic approach would augment our understanding of co-occurrence of sleep problems in patient-caregiver dyads, trends of concurrent transformation of these sleep problems across time, as well as covariates that appear to contribute to these patterns within the dyad and across time. Importantly, such an approach requires longitudinal, adequately powered and designed exploratory and interventional studies to be conducted for the development of truly effective sleep interventions for people affected by cancer.

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POSTER

#### The Nurse as a Source of Information in the Management of Side Effects of Chemotherapy

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**Introduction:** Malnutrition is present in most of 70% of cancer patients. Causes of malnutrition are: lack of appetite, altered taste and smell, mucositis, nausea and vomiting. Nearly half of the patients receiving chemotherapy are not given enough information about the treatment and its side effects. More commonly, patients receive information for the management of nausea and vomiting, information that is given mainly by the oncologist.

**Aims of the study:** To identify how many and which kind of information are given to patients about the side effects related to malnutrition during chemotherapy and to analyze the sources of these information.

**Materials and Methods:** The study was conducted at the Day Hospital of the Department of Oncological Medicine adjunct to the "Istituto Oncologico Veneto" in Padua, from May 2009 to July 2009. An ad-hoc 18-item questionnaire was administered to 120 patients who answered/responded to questions about the symptoms of malnutrition and their information sources. The questionnaire was filled out by patients in therapy with: Oxaliplatin, Docetaxel, Caelyx as highly emetic. The interview was conducted with patients by the same person and with the same procedure for all respondents.

**Results:** Most of patients live as a serious problem (49% of patients) to changes in their eating habits and this affects their quality of life. 43% of the patients claimed to have been informed about side effects of chemotherapy; 40% of the patients had received information by the nurses, while 38% by the physicians; 86% of the patients had received information about

nausea and vomiting by the physicians. Strikingly, 44% of the patients had received information about mucositis, 43% about altered taste, and 59% about loss of appetite by the nurses only.

**Conclusions:** It seems that oncological patients are given scant or little information on malnutrition during their chemotherapy. On the contrary, it may be extremely important for the nurses to provide information and advice on this subject mostly because he/she is the one who is more in contact with the patients themselves. The literature shows that family members of cancer patients are not prepared to support their relative with cancer, so it is very important that the nurse can assist the patient and his family at the same time. In this way their nutritional status improve and consequently their quality of life.

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POSTER

#### Comparison of the Effectiveness of Glutamine and Triple Gargle for Prevention of Mucositis Development in Patients Who Have Undergone Bone Marrow Transplantation

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**Background:** Mucositis is one of the most frequent side effects seen in patients receiving chemotherapy, and presence of the microflora in mouth and the oral mucosa deteriorating following bone marrow transplantation makes the development of mucositis easier. This study was designed as an experimental study to show the affect of glutamine use in addition to the oral care protocol applied in patients undergone bone marrow transplantation(BMT) to prevent mucositis development.

**Material and Method:** Universe of the study consists of the inpatients of the medical oncology clinic of a university hospital in Turkey who have undergone BMT. An explanation of the study was given to patients. The Ethics Committees of the two hospitals approved the study. Patients were divided into two equal groups as experiment and control groups according to age, gender, diagnosis and the treatment protocol applied. Data collection form and oral evaluation guide were used to collect data. Standard oral care protocol was used in the control group to prevent mucositis development (two ampoules of sodium bicarbonate in 500 cc water+500 cc normal saline+triflucan suspension – to be used one measuring cup in mornings and evenings). In patients of the experiment group, however, glutamine was used in addition to this protocol (two sachets in the morning, noon and evening, total 30 g). All patients used gargles every two hours in daytime and every six hours in nighttime. Patients washed their mouths with gargles containing normal saline and sodium bicarbonate and then spit out, and swallowed triflucan suspension. Patients in the experiment group, however, added Glutamine into 200cc water, kept it in their mouths for one minute, and then swallowed. Oral mucositis grading system of WHO was used in the study to evaluate mucositis, and evaluation of mucositis was performed by the nurse of the patient (0, 5, 10 and 15 days).

**Results:** In the day 5 following BMT, it was observed that mucositis did not develop in 53.8% and Grade 1 mucositis developed in 46.2% of the patients that glutamine serum was applied. Grade 2 mucositis developed in 9.1% of the patients that triple gargle was applied. In the day 10 following BMT, it was observed that mucositis did not develop in 69.2%, Grade 2 mucositis developed in 7.7% of the patients that glutamine serum was applied. However, mucositis did not develop in 54.5% and Grade 1 mucositis developed in 45.5% of the patients that triple gargle was applied. No statistically significant differences were seen between trial and control groups as regards mucositis development ( $p > 0.05$ ). Mucositis development of the patients were compared with age, daily oral fluid amount and leukocyte and platelet values, and it was seen that there were no statistically significant differences ( $p > 0.05$ ).

**Conclusion and Recommendations:** Performing studies with larger samples to determine the effects of glutamine us for the prevention of mucositis development after BMT will be beneficial.

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POSTER

#### The Evaluation of Infections Related to the Internal Diseases and Hematology Patients Observed at Intensive Care Service at Akdeniz University

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**Introduction:** Infections related to the medical care service (SBHII) indicate the quality of a treatment institution. Increasing the duration of staying at hospital due to the infections related to the medical care service brings out the problems such as increasing mortality and morbidity and treatment duration. It is possible to control such infections by surveillance the infection results and comparing these result to the other hospitals'.

**Purpose:** In this study, infections related to the medical care services, their frequencies, causes, and effects on treatment duration were studied at oncology/hematology internal intensive medical care service patients at Akdeniz University Hospital (AUH).

**Material and Methodology:** In this study, infection diagnosis patients at internal intensive medical care services are taken into account at AUH between the intervals January 2008-December 2010. Study was performed by the surveillance system based on both prospective patient and laboratory. Infections are diagnosis by taking the criteria of Center for Disease Control and Prevention (CDC) into account. Statistical analyses were performed by the National Hospital Infections Control Unit (UHESKB) and data of the rates of infections were compared by the data of National Nosocomial Infections Surveillance (NNIS) and UHESKB.

**Diagnosis:** 4243 patients were observed at internal intensive medical care service between January 2008-December 2010. 105 SBHII was obtained 55% of all patients. In detail, 21(%6.05) in 11 oncology patient, 13 (%7, 15) in 7 hematology patient, 71 (%14.85) in other 27 patients, SBII was increased. When we have a closer look to the distribution of infections, pnömoni (%25.75), bakteremi (%16.06), urinar sistem (%11.07) were observed respectively. On the other hand, most frequent causes were the Acinetobacter baumani (%30.30), Pseudomonas aeruginosa (%15.15), Enterococcus faecium (%12.12) respectively. In most of the patients (%88.2), there were more than one invasive attempt making easier the formation of infection. Their lining times in hospital were changing from 7 to 60 days. Patients lining in the hospital more than 7 days are more likely to have a quick infection formation rate.

**Result:** The rates of hospital infections in internal intensive medical care services are in an increasing regime and this creates a serious problem. Increase in lining time at hospital, grouped patients, and increased number of patients per a nurse increases the frequency of infections.

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#### Oral Presentations (Sun, 25 Sep, 09:00–11:05) Breast Cancer – Advanced Disease

5000

ORAL

#### Long-term Outcome of HER2-positive (HER2+) Metastatic Breast Cancer (MBC) Patients (pts) Achieving Durable Complete Remission (DCR) After Trastuzumab (T)-containing Chemotherapy (CT)

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**Background:** CR following a T-containing CT is reported throughout all phase II and III clinical trials of first-line CT plus T but there is lack of data about clinical features and long-term outcome of these pts. Moreover the optimal duration of maintenance T following CR remains undefined.

**Material and Methods:** We performed a retrospective review of pts with HER2+ MBC treated with a T-containing CT at our two Institutions and identified all cases who achieved DCR. HER2 positivity was defined as 3+score at immunohistochemistry and/or amplification at FISH test. DCR was defined as a CR according to RECIST 1.0 criteria lasting  $\geq 36$  months. Pts were identified by systematical cross-match of the datasets of Medical Oncology, Pathology and Pharmacy Departments.

**Results:** We identified 120 pts with HER2+ MBC treated from May 2000 to April 2011. Eleven pts (9%) had a DCR. Their characteristics are as follows: median age: 59 yrs (range 30–65), stage at diagnosis: M0 54%/M1 46%, histology: ductal 82%/mixed ductal-lobular 9%/unknown 9%, tumour grade: G3 54%/G2 27%/unknown 19%, oestrogen receptors (ER): negative 64%/positive 36%, metastatic disease: liver only visceral disease 55%/liver and/or other visceral metastases 18%, soft tissues only metastases 27%, T regimen: T+docetaxel+carboplatin 64%/T+taxane 27%/T+capecitabine 9%. All pts were T-naïve. Median follow-up time is 6.5 yrs (range 4–10.9). Median duration of T was 63 months (17–121+). Maintenance T was stopped in 7 pts: 2 at disease relapse (after 74 and 83 months from