other malignancies; its dose-limiting toxicity is sensory peripheral neuropathy. GSH, a thiol tripeptide, has been shown to provide protection against cisplatin neurotoxicity. In a phase III randomized placebo-controlled trial we evaluated the efficacy of GSH in the prevention of L-OHP-induced neurotoxicity.

Methods: 52 pts with colorectal cancer were randomized to receive GSH 1500 mg/m2 over 15-minute immediately before L-OHP 100 mg/m2 2-h infusion d1, leucovorin 250 mg/m2 2-h infusion followed by 5fluorouracil 1500 mg/m2 24-h infusion d1-2 (GSH arm), or normal saline solution followed by the same regimen (placebo arm), q 2 weeks. At baseline, after 4 and 6-8 cycles, a clinical neurological evaluation according to NCI-CTC was performed, in addition to electrophysiologic investigations of latency (lat), motor and sensory amplitude potential (map, sap), conduction velocity (cv) of motor (peroneal, tibial) and sensory (sural) nerves.

Results: 26 pts for each arm were randomized into the study, M/F 31/21, median age, 64 years (range 40-77), ECOG performance status 0/1 37/15. After 4 cycles, clinical and electrophysiologic evaluations showed no difference among the treatment arms. After 6-8 cycles, pts (n=21) in the GSH arm had neurotoxicity NCI-CTC gr. 1/2/3/4 16/2/0/0, whereas pts (n=19) in the placebo arm suffered from neurotoxicity gr. 1/2/3/4 5/7/4/1. Remarkably, 63% of pts had grade 2-4 neurotoxicity in the placebo arm compared to 9.5% of pts in the GSH arm (p=0.001). After 6-8 cycles, we observed a significant impairment of lat (p=0.035), sap (p=0.05), and cv (p=0.017) of the sural nerves of pts in the placebo arm, but not in the GSH arm.

Conclusions: This study suggests the efficacy of GSH in reducing the incidence of moderate-to-severe neurotoxicity and the damage to sensory nerves after treatment with L-OHP; these effects are particularly evident for L-OHP cumulative dose of more than 400 mg/m2.

1036 ORAL

A prospective cohort study to examine the risk factors for the development of arm oedema following breast cancer treatment

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Purpose: Arm oedema is a common side effect of breast cancer treatment and it is important to identify the risk factors which may precipitate the onset of the condition. Reports of venepuncture precipitating oedema have prompted warnings against the use of any IV interventions in the ipsilateral (treatment side) arm but the statistical risk of this complication is not known. The aim of this prospective cohort study was to examine the importance of possible risk factors, in particular, to estimate the relative risk of developing arm oedema when venepuncture occurs.

Methods: 252 women undergoing breast surgery which involved axillary node sampling, exision or biopsy were recruited. Limb volumes were measured prior to treatment and at two weeks, three months and six months post-operatively. Volume difference between the ipsilateral and contralateral arms was calculated, adjusted for the natural (pre-treatment) difference in arm volumes, and systemic changes in weight and fluid balance. The occurrence of venepuncture or non-accidental skin puncture was recorded daily throughout the patient's hospital stay.

Results: Six months post surgery 66% of the sample had oedema of the ipsilateral arm. Women who had venepuncture on the ipsilateral side were 1.2 times more likely to develop arm oedema than women who did not have venepuncture on the ipsilateral side. The 90% confidence interval for this result is 0.97 to 1.50. Age and weight were not found to be significant factors. (Interim results of 169 data sets; complete results will be presented at the conference).

Conclusion: These results confirm previous subjective reports of an association between venepuncture and the onset of arm oedema. The management of the arm during treatment for breast cancer and the management of arm oedema after treatment should be informed by the results of this study.

1037 ORAL

Outcome analysis of cancer patients admitted to the intensive care unit (IICU) in an emergency

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Purpose: ICU treatment for cancer patients has been subject to critical reconsideration or was explicitly discouraged. We werwe interested to evaluate the outcome of intensive care treatment in cancer patients admitted for an emergency.

Patients and Methods: Retrospective analysis in 189 consecutive cancer pts. referred to the intensive care units (ICU) in an emergency during a two-year period. Parameters evaluated were: patient characteristics, type of emergency causing ICU referral, and ICU treatment modalities. For statistical analysis we used a regression analysis as well as the decision tree learning method acc to Ripley. Dat were analyzed with respect to death during ICU stay, after transfer from ICU, and after discharge from hospital. Underlying diseases were solid tumor (55.1%), lymphoma (17.1%), acute leukemia (15.0%), myeloma (4.3%), or other malignancy (8.6%).

Results: Chemotherapy in 46% (HD+SCT in 14%) and surgery in 27% of the pts. were the most recent interventions prior to referral. Reasons for ICU referral were pneumonia (29.6%), sepsis (27.0%), fungal infection (11.1%), another infection (9.5%), gastrointestinal emergency (16.9%), treatment-related organ toxicity (6.9%), or another, non-infectious complication (43.9%). Vasopressor support was required in 50.3%, mechanical ventilation in 49.7%, and hemodialysis or hemofiltration in 26.5% of pts. Overall, 41.3% died during ICU treatment, 12.2% died after transfer from ICU to a non-ICU ward, and 35.5% were discharged alive. Vasopressor support and mechanical ventilation were independent risk factors for fatal outcome, whereas treatment-related organ toxicity and surgical pretreatment predicted favorable outcome. No single risk factor was found to be unequivocally predictable for death. All patients with fungal infections complicated by sepsis and vasopressor support or the need for mechanical ventilation and vasopressor support died during ICU treatment. Non-septic patients who did not require mechanical ventilation, were younger than 74 years of age and had a non-infectious underlying complication, had a survival rate of 100%.

Conclusion: Cancer patients who have not recently given their explicit statement to refuse ICU treatment, should be considered for referral to the intensive care unit in an emergency. A prospective documentation based upon the most signficant prognostic parameters seems warranted.

1038 ORAL

Attitudes towards nutritional aspects among cancer patients- a nation wide survey

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Nutrition is seen as an important issue in relation to having a cancer disease by most patient. There are many myths about the relation between nutrition and disease course. Nutrition is seen as a way of influencing the disease course. At the same time, eating is a very important social concept.

Methods: On three days, all patients coming for treatment with either chemotherapy or radiotherapy at the department of oncology where ask to participate in this questionnaire study. The questionnaire consisted of questions about attitudes, knowledge about nutrition, and how an eventually weight loss influenced their daily living and quality of life.

Material: A total of 1036 patient agreed to participate, 739 (71%) women and 289 (29%) men, from the six Danish cancer centres.

Results: Of these 1036 patient 63% had changes their eating habits, and 71% where having some form of nutritional supplements. Significantly more women then men were taking diatary supplements (p>0.005). While 20% thought that nutrition was very important for the course of a cancer disease, only 8,5% did not think that nutrition had any influence at all. Significantly more women and younger patients emphasised the importance of nutrition. However regarding the patients actual knowledge about food, there was substantial misconception about which food was reasonable for cancer patients, as a majority favored vegatables and food with low-calorie content.

Patients in the age group between 40 and 60 years of age, where significantly more information seeking then the yunger and older age groups. 59% of the patients, and significantly more women then men, where less the satisfied with the information offered at the hospitals.

Conclusion: Nutritional aspects are seen as very important by cancer patients, and the nutrition is seen as a way to influence the disease course. However, despite the high information seeking behaviour, there is a lack of knowledge of what would constitute reasonable eating habits. So, the quality of the counselling offered at the hospitals concerning nutritional aspects need improvements, as this would a way of improving every day life of the cancer patients.