between the three groups (p = 0.78). Also at further time points there is no significant difference between the 3 drugs, but an increasing percentage of patients had a decreased death rattle intensity. Also side effects (confusion, consciousness, bladder retention, ileus, heart failure, fever) and survival after start of therapy (mean 39.2, median 23.9 hours) did not differ between the treatment groups.
Conclusion: For the treatment of death rattle, there is no difference in effectiveness, side effects or survival between atropine, butylhyoscinebromide, and scopolamine. Overall, rattle improves in 37%, is stable in 57%, and is progressive in 6% after 1 hour of treatment, and improves further with time. Survival is short after diagnosis of death rattle. This study proves that large multicenter prospective randomised trials with informed consent are feasible in terminal care patients.

1133 POSTER

Residual damage to the small intestine induced by chemotherapy can be detected and monitored using the non-invasive ^{13}C Sucrose Breath Test (SBT)

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Background: Previous studies in our laboratory in paediatric oncology patients have suggested that intestinal damage becomes progressively worse with multiple chemotherapy regimens. We have extended these studies to adult cancer patients to further assess the likelihood of damage to the small intestine in a subsequent cycle. The response of the small intestine to cancer chemotherapy was monitored using the non-invasive ^{13}C sucrose breath test (SBT).
Methods: The SBT was carried out on all patients (n = 34) according to the manufacturer's instructions (GaspackTM, Nidor Pty Ltd, Adelaide, Australia) as described previously [1]. Breath samples were collected over 90 mins at baseline (prior to chemotherapy) and at selected intervals after treatment (1, 3−5, 7−10 and 12−15 days). A baseline SBT measurement was carried out again at the beginning of the next chemotherapy regimen. The SBT activity level is determined as the % cumulative expired $^{13}CO_2$ @ 90 min (%CD90). The SBT level at which damage to the small intestine is likely is <4.4%.
Results: Patients with colorectal cancer (n = 28), breast cancer (n = 2) and lymphoma (n = 4) were recruited. The SBT (mean±SEM) decreased from the baseline of one cycle to the baseline of the next (%CD90: 7.2±1.1 vs 4.7±0.65; p < 0.02) and this continued to decrease in three patients who carried out a third cycle (%CD90: 3.5±1.1). The pattern of damage and repair within a cycle was consistent with a decrease on day 1 followed by recovery on day 3−5, then decreasing again with time thereafter until day 12−15 at which time there was a significant decrease compared with day 0 levels for that cycle (p < 0.05).
Conclusion: The SBT indicated a significant decline in small intestinal integrity from one cycle to the next. It is likely that differing chemotherapeutic regimens, cycle number and disease state would contribute to the range of SBT results obtained at each data collection point throughout any given cycle. However, the residual damage of increasing severity supports the usefulness of a low baseline SBT as a potential predictor of susceptibility for mucositis occurring in subsequent cycles of chemotherapy. The degree of decline in SBT may also guide prediction of mucositis during treatment and interventions where available.

References

[1] Tooley KL, Saxon BR, Webster J, Zacharakis B, McNeil Y, Davidson GP, Butler RN. Cancer Biol Ther 2006;5(10):1275−81.

1134 POSTER

Survival prediction of terminally ill cancer patients by clinical and laboratory parameters: usefullness role of simple prognostic indicators

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Background: Although accurate prediction of survival is essential for palliative care, no clinical tools have been established. Aim of this retrospective study was to assess clinical and laboratory factors predictive of survival in a population of patients with terminal cancer.
Patients and Methods: The study cohort comprised 98 advanced cancer patients, no longer suitable for anticancer therapy, transferred between January 2004 and December 2006 from the Medical Oncology Unit to the Palliative Care Unit of Parma University Hospital. The analysis was performed for 23 clinical and laboratory parameters evaluated on admission to palliative care ward, including tests for hepatic, renal and hematological functions, presence of symptoms such as dispnoea, anorexia, diarrhea, pain, fever, intestinal occlusion, arithmia, depression, hemorrhage, presence of therapies such as oppioids, oxigen-therapy, insuline administration, parentheral nutrition.
Results: Median age was 69 years (range 34−93). Tumor sites were: breast (22%); gastrointestinal (21%); lung (20%); head and neck (16%); others (21%). All the patients had previously been treated with more than 1 line of chemotherapy for metastatic disease. Overall median survival (MS) was 45 days. Seven factors were found to be indicators of a worse survival by univariate analysis: anorexia (P = 0.004); fever (P = 0.002); Braden Score (BS) for decubitus risk (<17 vs ⩾17) (P < 0.001), pseudocholinesterase (p-CHE) (⩽4.300 U/l vs normal, P < 0.001); white blood count (⩾10,000 vs normal, P < 0.001); LDH (>500 U/l vs normal, P < 0.007); INR (>1.14 vs normal, P < 0.002). Cox regression analysis revealed that only BS (<17 vs ⩾17: HR = 2.47, 95% CI: 1.53−3.99, MS: 30 vs 87 days), p-CHE (altered vs normal: HR = 3.28, 95% CI: 2.01−5.35, MS: 24 vs 103 days) and LDH (altered vs normal: HR = 1.83, 95% CI: 1.14−2.97, MS: 25 vs 61 days) were independent predictors of survival.
Conclusions: a cluster of simply assessable clinical and laboratory parameters may be used to accurately predict survival in terminal cancer patients. These prognostic indicators may be useful in the day-by-day therapeutic decision-making process of palliative care and medical oncology specialists.

1135 POSTER

Anaemia management with epoetin alfa in real-life, daily oncology practice in the Netherlands – interim analysis results from an observational study

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Background: In cancer patients (pts) who undergo chemotherapy (CT), anaemia is a serious issue for quality of life. ASCO/ASH and EORTC have published guidelines on the use of epoetins in cancer pts. This study is addressing the real-life situation of epoetin alfa (Eprex®) treatment (ET) in anaemic cancer pts receiving CT.
Material and Methods: Pts were eligible if they were 18 years or older, received CT or where about to receive CT within a week as a treatment for a solid tumour, Multiple Myeloma, Hodgkin's Disease or non-Hodgkin disease and received ET. Data on haemoglobin level (Hb), blood transfusions (BTx), CT and ET were collected. Data were analyzed for the first 200 pts enrolled. Averages are presented as value ± standard deviation.
Results: Gender distribution is 50% male and 50% female. Average age is 63.6±11.0 years. Tumour types are divers with 44% lung cancer pts. Majority of pts had metastases (63%) and the majority received platinum-based CT (64.5%). All pts started with 40.000 IU ET once-weekly. During ET, dose was adjusted for 21 pts. ET lasted on average 12.6±7.5 weeks and was started at an average Hb of 10.5±1.1 g/dl which resulted in an average Hb-rise of 0.4±1.7 g/dl after 28 days (28–35 days) (p = 0.0032) and 1.3±2.3 g/dl after 56 days (56–63 days) (p < 0.001), respectively. A Hb rise of 1 g/dl during ET occurred in 138 pts (75%). Response defined as either a ⩾1 g/dl Hb rise during the first 4 weeks of ET or a ⩾2 g/dl Hb rise from baseline or a maintenance of Hb within range 11–13 g/dl from 4 weeks ET onwards until end of study, resulted in 70% responders. BTx were received by 64 pts (35%) and 52 pts (28%) received BTx after ET start. Transferrin saturation (TS) could be assessed in 58 pts of whom 30 were iron deficient (TS < 20%). During ET 155 pts reported onset of 429 adverse events (AE) of whom 59 pts reported a serious AE. For 11 AE (2.6%) a relation to ET was assumed by investigators. Thrombotic events (embolisms and thromboses) were reported for 12 pts (6%), but only for 2 pts a relation with ET was assumed by investigators.
Conclusion: In real-life, daily oncology practice in the Netherlands, ET on average is started at Hb levels indicated in published guidelines, corrects CT-related anaemia and is safe. Iron storage parameters are not often assessed with about half of the iron deficient pts receiving iron suppletion. More patient data are needed to gain more insight and to be able to perform some tumour-specific analyses.