survival was 76%. A Phase III multicentre randomized trial is currently ongoing in the UK funded by the Cancer Resaerch Campaign.

817 POSTER

Serum IGF-I, leptin and body mass index in relation to survival in patients with renal cell carcinoma

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Purpose: Obesity is associated with an increased risk of certain cancers, including renal cell carcinoma. Possible mediators of this increased risk are insulin-like growth factor-I (IGF-I) and leptin. Whether these hormones affect prognosis has not been studied.

Methods: We analysed serum leptin at the time of diagnosis in 205 consecutive patients with renal cell carcinoma. Serum IGF-I and body mass index (BMI) was assessed in 197 of these patients. Serum IGF-I decreased with age, but did not correlate to gender, BMI, tumour stage or grade.

Results: Leptin was significantly higher in female compared with male patients, and correlated to BMI. Serum leptin was unrelated to tumour stage, but inversely related to nuclear grade, parallelled with a decrease in BMI. Survival analysed in relation to serum IGF-I showed that patients with levels above median had a more favourable prognosis, compared to those with lower levels ($p = 0.06$). For serum leptin patients with levels in the lowest quartile tended to have a shorter survival time compared to those with higher levels. A multivariate analysis showed that tumour stage, nuclear grade and serum IGF-I were independent prognostic factors for survival.

Conclusions: High serum levels of IGF-I were associated with a more favourable prognosis in patients with renal cell carcinoma. However, serum leptin levels and BMI did not affect prognosis.

818 POSTER

Lymphatic mapping and detection of sentinel node in patients with urinary bladder cancer

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Objective: To determine whether it was possible to detect sentinel nodes in patients with bladder cancer, and to investigate if the histopathological status of identified sentinel nodes reflected the status of the routinely excised lymphatic field

Materials and methods: 13 patients with bladder cancer who met criteria qualifying for radical cystectomy, were examined preoperatively with injection of radioactive tracer peritumorally, then followed by lymphoscintigraphy and during operation (surgery) with dye marker and Geiger-meter to visualise lymphatic drainage and detect sentinel nodes. Identified sentinel nodes were compared histopathologically with other routinely excised lymph nodes

Results: Sentinel nodes were detected in 85% of the cases. In four patients histopathology confirmed lymph node metastasis, in each case metastasis was confined to the detected sentinel node. In one case only was the lymph node metastasis an obturator node

Conclusions: Sentinel nodes can be detected in patients with urinary bladder cancer using these methods, regional lymph node metastases, if present, were located in correponding sentinel nodes and the principles of lymph node dissection solely in fossa obturatoria need to be further scrutinized

Testicular cancer

819 POSTER

Environmental or hereditary risk of cancer in testicular tumor patients?

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Purpose: The common environment of the relatives, i.e. of brothers and offspring, and the doubled worldwide incidence of testicular cancer over the past 25 years suggest the strong involvement of the environmental factors in the formation of testicular cancer. Familial cancer-aggregations and the occurrence of bilateral tumors in the patients seem to be arguments in favor of the major influence of genetic factors. The aim of this study was to sort out the role of hereditary components in testicular tumor patients (TTPs) by determining cancer occurrences in their families, *versus* occupation- and fertility-rate matched normal controls.

Methods: Familial aggregation of testicular- and other cancers were investigated in first degree relatives of 293 TTPs and 600 age matched controls, under the same socioeconomic and environmental circumstances.

Results: The incidence of cancers was significantly higher in TTP families than in the controls (10% vs. 7.9%), but this result could be accounted for almost entirely by the finding of more cancers in brothers (11.2% vs. 3%) and offspring (3% vs. 0% in controls, and/or 15.3/100 000 prevalence of childhood tumors in Hungary). There was no association with other cancers except testicular malignancy in 5 brother-brother pairs and one father-son case. Two percent of patients reported familial, and 1.7% had bilateral testicular cancers. Significant shift was found in the sex-ratio of the descendants: Testicular cancer patients fathered more girls than boys (58%:42% vs. 47%:53% in controls). Six cancers occurred in 200 offspring of 153 TTP families (bilateral Wilms' tumor, neuroblastoma, brain tumor, acute lymphoid leukemia, testicular tumor and histiocytosis-X), while no cancer was found in 423 offspring of 600 normal controls. As a form of genetic instability increased yield of spontaneous chromosomal aberration was detected in both index patients and their offspring (2% and 0.90% vs. 0.87% and 0.62% in controls).

Conclusion: The familial aggregation of testicular malignancy in brothers, the altered sex ratio in the offspring, the dramatically increased incidence of childhood tumors, and the elevated frequency of chromosomal aberrations in index patients and their offspring under the same socioeconomic conditions indicate more significant role of hereditary factors in the predisposition to testicular- malignancy than that of environmental factors.

820 POSTER

A phase II study of alternating dose-dense chemotherapy in patients with poor-prognosis disseminated non-seminomatous germ cell tumors (NSGCT): Final results

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Purpose: To assess the efficacy and toxicity of a dose-dense chemotherapy regimen in patients with poor-prognosis NSGCT.

Patients and Methods: Poor-prognosis NSGCT was defined as follows: at least two sites of non pulmonary metastases, an extragonadal primary tumor, HCG > 10,000 mIU/mL, or AFP > 2,000 mIU/mL. Cycles of the BOP-CISCA-POMB-ACE regimen (bleomycin, vincristine, cisplatin/cisplatin, cyclophosphamide, doxorubicin/cisplatin, vincristine, methotrexate, bleomycin/etoposide, dactinomycin, cyclophosphamide) + G-CSF were recycled every 7 to 14 days.

Results: 58 patients were enrolled: 38 (66%) poor-prognosis and 19 (33%) intermediate-prognosis according to the IGCCCG. Median number of courses: 2.5 (range 0.25–5). 42 patients (72.4%) had a complete response. With a median follow-up of 31 months (range 0.3 to 71 months), the 3-year overall survival (OS) rate was 73% (95% CI: 62%–86%). The 3-year OS rates were 83% (95% CI: 67%–100%) in the intermediate-prognosis group and 67% (95% CI: 53%–84%) in the poor-prognosis group. Toxicity: G4 neutropenia (79%), G4 thrombocytopenia (69%), G4 anemia (22%), G4 stomatitis (19%), and 4 early deaths (7%).

Conclusion: The dose-dense BOP-CISCA-POMB-ACE regimen is highly active in patients with NSGCT with intermediate- or poor-prognosis according to the IGCCCG. Because outcomes with this regimen compare favorably with outcome after standard therapy, dose-dense chemotherapy should be further investigated in this subset of patients.