positive predictive value of 88%. Overall, path. stage was correctly predicted in 131/149 (88%) CS I NSGCT. Immunohistochemical expression of p53 ($p < 0.03$) and e-cadherin ($p < 0.04$) was statistically different between path. stage I and II by univariate, but not by multivariate analysis.

Conclusion: % EC and VI are clinically useful parameters to identify CS I NSGCT both at low risk and at high risk for retroperitoneal disease and biological markers do not seem to be of additional prognostic value. CS I NSGCT should be evaluated for quantitative histology and presence of VI to stratify the therapeutic approach.

161 POSTER*

BOMP/EPI intensive chemotherapy in poor-prognosis Germ Cell Tumors (GCT)

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Introduction: Patients (pts) with poor-prognosis GCT by IGCCCG classification had a expected 3-year survival of 50%.

Methods: In a multicenter study, 43 of these pts were treated with an intensive alternating chemotherapy regimen between Sept. 1985 and Dec. 1995. Primary site was testis in 32, retroperitoneum in 6 and mediastinum in 5. Treatment consisted of bleomycin 30 mg, vincristine 2 mg, methotrexate 300 mg/m^2 and cisplatin 100 mg/m^2 (BOMP), alternating at 14 day interval with etoposide 120 mg/m^2 d1–4, ifosfamide 1.3 gr/m^2 d1–4 and cisplatin 25 mg/m^2 d1–4 (EPI). BOMP was administered at 21 day interval from EPI. The median of cycles administered was 6 (1–10 cycles). Ten patients received additional chemotherapy after BOMP/EPI.

Results: Response to BOMP/EPI was complete response 8, partial response with negative markers 19, partial response with positive markers 8, growing teratoma 3, and no response 2. Twenty-three pts underwent surgical resection of postchemotherapy masses, including 4 pts with residual cancer. Twenty-seven pts (63%) achieved NED status after chemotherapy ± surgery and, in addition, 5 pts were marker negative but had non-resected residual masses (12%). There were an early death and a drug-related death. Toxicity grade 4 was: granulocytopenia 21 pts (49%), thrombocytopenia 1, anemia 3, lung toxicity 1, mucositis 1 and nephroxicity 1. Eighteen pts had granulocytopenic fevers. After a median follow-up of 25 months (12–135), the actuarial 2-year overall survival and progression-free survival were 67% and 62%, respectively.

Conclusion: BOMP/EPI is active enough in poor-prognosis GCT pts, when comparing with the reported IGCCCG results, to warrant comparative trials in this subset of pts.

162 POSTER*

Secretion of immunomodulating GM-CSF and M-CSF by human renal cell carcinoma of different types

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Purpose: GM-CSF and M-CSF have been shown to affect tumor-directed immune response in human renal carcinomas in phase I/II trials. So far, however, little is known about the synthesis of these growth factors by human renal cell carcinomas (RCCs).

Methods and Results: 38 newly established human RCC cell lines of different histological types were analyzed for the expression of hematopoietic growth factors and their corresponding receptors. ELISA revealed secretion of GM-CSF in 38 cell lines (max. concentration: 90 pg/ml per 10^5 cells) and of M-CSF in 37 cell lines (max. concentration: >2000 pg/ml per 10^5 cells). 14 cell lines showed secretion of G-CSF (max. concentration: 4.2 pg/ml per 10^5 cells) and IL-3 was found in 14 cell lines (max. concentration: 3 pg/ml per 10^5 cells). Secretion of IL-5 and EPO was not detected in any cell line. Using FACScan or RT-PCR, only 2 cell lines were shown to express receptor for M-CSF, whereas receptors for GM-CSF and G-CSF were not detected. Exposure to exogenous M-CSF, GM-CSF and G-CSF (concentrations: 0.1–100 ng/ml) did not affect the growth of our RCC cell lines as shown by MTT-assay.

Conclusion: Our study demonstrates that human RCCs of different histological types secrete significant amounts of GM-CSF and M-CSF, thereby supposedly being able to modulate the host's tumor-directed immune response.

163 POSTER*

Autoimmunity induced by Interleukin-2 and Interferon-α is associated with long-term survival in patients with metastatic renal cell carcinoma

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Interleukin-2 based immunotherapy has been shown to induce thyroid dysfunction and synthesis of thyroid autoantibodies. To assess the prognostic implication of immunotherapy-associated thyroid autoantibodies, we studied 329 unselected patients with metastatic renal cell carcinoma treated with s.c. IL-2 based immunotherapy since May 1989 at our institution. We evaluated antithyreoglobulin (ATA), antimicrosomal thyroid (AMA), and thyreo-globulin-receptor (TRAK) autoantibodies, thyroid dysfunction, and various known predictors of survival (*J Urol* 155: 19, 1996) prior and concurrent to IL-2 based immunotherapy in relation to overall survival. For statistical analysis, we used both univariate and multivariate Cox proportional-hazards models, and two-tailed Fisher's exact test. ATA and/or AMA were detected in 60 patients (18%), of whom 25 (8%) had pre-existing ATA and/or AMA titers as expected from the prevalence in caucasian population (*J Int Med* 239: 517, 1996). Ten of the latter patients showed rising titers concurrent to IL-2 based immunotherapy. We observed thyroid dysfunction in 125 patients, whereas 21 out of 60 patients with thyroid autoantibodies and 183 out of 269 autoantibody negative patients remained euthyroid ($p < 0.0001$). By univariate analysis, the presence of thyroid autoantibodies (ATA and/or AMA) ($p = 0.002$) and of dysthyroidism ($p = 0.04$) was statistically associated with favorable outcome. The mean overall survival in thyroid autoantibody positive patients was significantly prolonged (59 months) when compared to thyroid autoantibody negative patients (29 months; $p < 0.0001$). Upon multi-variate analysis, detection of thyroid autoantibodies was a statistically independent predictor of survival in patients with metastatic renal cell cancer receiving s.c. IL-2 based immuno-therapy. The presence of thyroid auto-antibodies may specifically indicate an altered immune-responsiveness of a subgroup of patients predisposed to a longlasting tumour control, while other cytokine induced autoimmune phenomena (including rheumafactor, antimitochondrial, antinuclear, antiheart, anti-skeletal muscle and anti-smooth muscle autoantibodies) are not associated with an effective antitumor immunity.

164 POSTER

Single agent carboplatin or radiotherapy as adjuvant in stage I seminoma – Results of a prospective trial

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Aim: To investigate the role of single agent carboplatin versus radiotherapy in stage I seminoma.

Material: From 1991–1993 58 patients with stage I seminoma received either 400 mg/qm carboplatin (one course) (n = 31) (group 1) or radiotherapy for the paraaortic lymphatics (26 Gy) (n = 97) (group II) as adjuvant following orchiectomy. All tumors were β-HCG negative. All patients of group II had T1-tumors compared with 29/31 patients of group I.

Results: All patients were scored prospectively. With a median follow up of 35 months in group I and 30 months in group II, all together one tumor progression was seen (group I). No late side effects were seen until yet. Acute side effects were mild and consisted of nausea in 30% of group II and 25% in group I.

Conclusions: No significant differences were seen for both groups. However, longer follow up is necessary. The late treatment results of radiotherapy are well known, but not for patients treated with carboplatin.

165 POSTER

Immunochemotherapy (IC) in patients with metastatic renal cell carcinoma

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Purpose: A response rate of 39% with a IC including Interleukin-2 (IL-2), Interferon-α (IFN-α) and 5-Fluorouracil (5-FU) was reported (J. Urol. 155, 1996) in patients (pat.) with metastatic renal cell carcinoma (RCC).

Methods: We analyzed the results of this regimen in an unicentric study, including 39 pat. (30 men) with a metastatic RCC, who were treated between 8/92 and 8/96. The mean age of the pat. was 56.7 years. In 14