group 2] and 28 TCPs received ⩾2 cycles of chemotherapy (⩾2 cycles with BEP or EP; group 3). An individual change in performance from baseline to follow-up on each neuropsychological test measure was assessed using a standardized regression-based model (SRB), fitted first to group 1 (reference). All test scores at follow-up were compared to their predicted values using this SRB-model. The SRB-model could not be applied for skewed test scores (4 out of 18 test measures) and these test scores were categorized, and an individual change of category from baseline to follow-up was registered. Based on all these analyses, the individual overall change in neuropsychological test performance from baseline to follow-up was classified as either "no change", "improved" or "declined".
Results: We found no statistically significant difference between the three groups in the proportions that exhibited decline or improvement on neuropsychological test performance. Data from all patients evaluated at follow-up until September 2009 (approx. 90% of the included TCPs) will be presented at the congress.
Conclusions: Our preliminary results do not support the hypothesis that systemic chemotherapy may affect cognitive function in TCPs; however type II statistical errors cannot be excluded.

7165 POSTER

The value of PET/CT with F-18-FLT and F-18-FDG in the therapeutic management of metastatic germ cell tumours

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Background: To assess the ability of F-18-FLT ([F-18]-3'-Fluoro-3'-deoxythymidin), a cell proliferation marker, for early response monitoring and prediction of histology of residual tumor masses in patients (pts) with metastatic germ cell tumors (GCT) in comparison to the standard tracer F-18-FDG (2-fluoro-2-deoxy-D-glucose), CT scans and serum tumor markers.
Material and Methods: Eleven male patients (pts), aged between 23 and 48 years, with metastatic GCT were evaluated with both F-18-FDG-PET/CT and F-18-FLT-PET/CT prior to chemotherapy (CTh), after the first cycle (early response) and 3 weeks after completion of induction CTh. PET was analyzed retrospectively visually and quantitatively. The results were validated by histopathology of resected residual masses after CTh in 7 pts or by clinical-radiological follow-up for at least 6 months in 4 pts. Presence of necrosis was judged as responder, as well as CR/PRm- within a minimum progression-free interval (PFI) of 6 mos. In case of multiple resections, the worse histology was taken into account. Regarding early tumor response EORTC criterias were used.
Results: Eight out of 11 pts had a PFI >6 mos (range, 206−1337 days). Examination of resected masses revealed necrosis in 3/7, teratoma in 2/7 and viable tumor in 2/7 pts. Prior to CTh the reference lesions showed increased FDG uptake ($SUV_{mean/range}$ 8.8/2.9−15.0) in all pts but moderate FLT uptake ($SUV_{mean/range}$ 3.7/1.7−9.7) in 10 out of 11 pts. Decrease of SUV_{mean} after 1 cycle of CTh was 64% in responders and 60% in non-responders (p=.8) for FDG, as well as 58% vs. 48% for FLT (p=.5), respectively, and 85% vs. 73% (FDG, p=.1) and 68% vs. 65% (FLT, p=.8) in the final monitoring. Results of early and final response were inconsistent in 6/11 pts in FDG and in 4/10 pts in FLT-PET. The 2 pts with teratoma presented false negative results in both FDG- and FLT-PET. The sensitivities, specificities, positive and negative predictive values (%) of FDG- and FLT-PET for early and final response monitoring were 60/33/43/50, 60/80/75/67, 20/100/100/60 and 0/100/0/50, respectively.
Conclusions: PET negative residual masses after CTh of metastatic GCT still require resection, since the low negative predictive value of F-18-FDG-PET cannot be improved by application of the proliferation marker F-18-FLT.

7166 POSTER

Predicting and preventing thrombo-embolic events in patients with germ-cell tumors receiving cisplatin-based chemotherapy

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Purpose: We previously demonstrated that patients with germ-cell tumor (GCT) receiving cisplatin-based chemotherapy are at a high risk of thrombo-embolic event (TEE) compared to patients of a same age with other cancers and receiving a similar treatment. Serum lactate dehydrogenase (LDH) and body surface area (BSA) were identified as independent predictive factors for TEE (Piketty et al. Br J Cancer 2005; 93: 909−14). The aim of this study was to prospectively validate these predictive factors and to assess the impact of a thrombo-prophylaxis policy in patients at risk of TEE.
Patients and Methods: From 2001 to 2007, 144 patients received first-line cisplatin-based chemotherapy for GCT at Institut Gustave Roussy. Preventive anticoagulation with low molecular weight heparin was recommended in patients with elevated serum LDH and/or BSA > 1.9 m^2. Incidence of TEE during the 6 months following the initiation of chemotherapy was assessed. Ten patients with evidence of TEE before starting chemotherapy were excluded from the analysis.
Results: Among 134 eligible patients, a TEE occurred in 16 (12%) including deep venous thrombosis (DVT) (n = 9) and superficial thrombophlebitis (STP) (n = 7). The incidence of TEE was 14% in 92 patients with one or both risk factors (9 DVT and 4 SVT) and 7% (3 STP) in the 42 patients with no risk factor. Of note, all 9 DVT occurred in patients with risk factors (9% vs 0%). Most (6/7) STP were located in the patients'arms used for peripheral venous access. The outcome was favorable in all 7 STP. Overall 24 patients (26%) with risk-factors received primary thromboprophylaxis, and this rate increased with time and with the availability of the results of our previous study (Br J Cancer 2005; 93: 909−14): 18% and 38% before and after 2005, respectively. The incidence of DVT slightly decreased from 11% to 8% during this period, respectively. Thromboprophylaxis was not associated with haemorrhage toxicity in this population.
Conclusion: This study confirms that patients with GCT receiving chemotherapy and either elevated serum LDH or a high BSA or both factors are at risk of developing TEE, specifically DVT. The use of a primary thromboprophylaxis was feasible in these patients and its systematic implementation is now an ongoing process in our institution.

7167 POSTER

Adjuvant chemotherapy (ACT) in patients with invasive bladder carcinoma (IBC): multivariate analysis of a cohort study

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Background: The use of ACT for IBC is only supported by retrospective nonrandomized studies or underpowered randomized trials. Additional information from metanalysis or observational studies can help to better define its role.
Patients and Methods: Since 1988, our institutional policy for patients (p) with IBC who underwent radical cystectomy (C), was to offer ACT to those patients who agree after they have been informed about their risk factors for relapse, toxicity of ACT, and status of the art at that moment. P treated with C or C+ACT were then followed according to the standard clinical practice. In this study we have retrospectively collected data in order to analyze the effect of ACT on the outcome of these two cohorts.
Results: From 1988−2008, 447 p having a radical cystectomy for IBC were identified (277 only C, 170 ACT). Chemotherapy consisted of 3 courses of MVAC (90 p) or, mainly from year 2000, 4 courses of CDDP 70 mg/m^2 d1 – gemcitabine 1 gr/m^2 d1,8 (73 p) or carboplatin – gemcitabine (7 p). There were no toxic deaths. Median follow-up was 63 m. As expected, there was a clear unbalance against the ACT cohort respect to important prognostic variables. Thus (C vs ACT): AJCC 2002 staging (pII, pIII, pIV: 56.7%, 33.6%, 9.7% vs 18.2%, 32.9%, 48.8%); histology (papillary/solid: 41.5%/58.5% vs 21%/79%), grade (G3: 91% vs 96.5%), surgical complications (39 % vs 28%) andperiod of treatment (until 1999/2000 and later: 57%/43% vs 39%/61%); p < 0.05 for all comparisons. Age was unbalanced in the pIII subgroup; 90% were male in both groups. Despite that, there were no statistically significant differences either in crude progression-free survival (PFS), overall survival (OS) or cancer-specific survival (CSS) in both cohorts. A multivariate Cox analysis including the above variables was fit to estimate the hazard ratio (HR) of relapse and death (ACT/C). We found interaction between stage and type of treatment, so results are presented stratified by pathological stages in the following table:

	PFS		SCS		OS	
	HR	95% IC	HR	95% IC	HR	95% IC
Unadjusted	1.18	0.9−1.6	1.10	0.82−1.50	0.98	0.76−1.27
Multivariate						
pII	1.01	0.53−1.91	0.88	0.42−1.8	0.77	0.42−1.43
pIII	0.58	0.35−0.96	0.64	0.37−1.1	0.55	0.34−0.88
pIV	0.28	0.16−0.50	0.31	0.16−0.60	0.28	0.15−0.50

Conclusion: In our series of IBC, C followed by ACT has been associated with a reduction in the risk of relapse and death, particularly in patients with extravesical disease or N+.

7168 POSTER

Prognostic factors for survival in patients (pts) with metastatic nonseminomatous germ cell tumors (mNSGST) relapsed after modern induction chemotherapy (CT)

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Purpose: Despite high efficacy of induction platinum-based CT, 20−30% pts with mNSGCT relapse and only minority of them might be cured. There is no commonly used prognostic classification for relapsed mNSGST like IGCCCG classification for CT-naive pts. The aim of this study was to define prognostic factors for survival in mNSGST pts relapsed after platinum+etoposide-based induction CT.
Patients and Methods: We analyzed data of 698 CT-naive pts with advanced NSGCT who had been treated in our department from 1986 to 2006 with etoposide- and cisplatin-based regimens (EP, BEP, C-BOP-3BEP and T-BEP) followed by resection of residual tumors. With median follow-up time 32 (range, 3−215) months 181 (26%) pts had relapsed. Pts with mature growing teratoma syndrome were not included in the analysis. The salvage CT was administered to 138 pts, 71 (51.7%) of them were treated with ifosfamide-cisplatin-based conventional CT (VeIP, TIP or VIP regimens). Multivariate step-wise Cox' regression analysis was performed to determine prognostic factors in the 71 relapsed pts treated with ifosfamide-cisplatin-based CT.
Results: The 5-year overall survival (OS) rate for pts treated with ifosfamide-cisplatin-based CT was 32% (95% CI, 25−41%). In the univariate analysis, following negative factors were determined: initial poor IGCCCG prognostic group, mediastinal primary tumor, morphology of primary tumor (yolk sac tumor), AFP level $\geqslant$10,000 U/ml and LDG level $\geqslant$1.5 ULN before induction CT, absolute cisplatin-refractory relapse, progression-free interval $\leqslant$ 2 years and LDG level $\geqslant$2 ULN at relapse. Four prognostic factors remained in the multivariate analysis: morphology of primary tumor (yolk sac tumor), LDG level $\geqslant$1.5 ULN before induction CT, absolute cisplatin-refractory relapse, LDG level $\geqslant$2 ULN at relapse. According the analysis pts could be classified into three prognostic groups. Good prognostic group (no negative factors) – 10/71 (14%) pts, 3-year OS – 100%. Intermediate prognostic group (1 negative prognostic factor) – 33/71 (46.5%) pts, 3-year OS – 50.2%. Poor prognostic group – ($\geqslant$2 negative prognostic factors) – 28/71 (39.5%) pts, 3-year OS – 6.7%.
Conclusion: Our classification allows dividing pts with relapsed mNSGCT into groups with different prognosis. This way of stratification is urgently needed for further trials. New regimens of salvage CT is demanded for pts with poor prognosis.

7169 POSTER

Association of preoperative sodium concentration with prognosis in renal cell carcinoma

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Background: Renal cell carcinoma has a variable natural history, and determining individual prognosis is important to guide management. A single recent report in a small UK series suggested that pre-operative hyponatremia might be a prognostic factor in renal cell carcinoma. We aimed to validate this finding in an external series of patients from a single Asian centre.
Methods: We retrospectively analyzed a series of patients undergoing nephrectomy for newly diagnosed RCC between 1991 and 2008. Clinical, pathologic, and laboratory data were recorded in each case.
Results: A total of 447 RCC patients formed our study population, with a median survival of 41.2 months. It was found that cancer specific survival correlated well with pre-operative sodium levels (HR 2.06, 95% CI 1.31−3.22, p = 0.001 by log-rank testing), with 5-year survival estimates to be 71.0% (95% CI 64.5−75.4) and 82.8% (95% CI 79.1−85.9) respectively, with poorer prognosis predicted in patients with relative hyponatremia. This same relationship can be seen using the outcomes of overall survival (p = 0.003) as well as disease-free survival in patients with non-metastatic disease (p = 0.069). Multivariate analysis showed that the effect of sodium levels was independent of clinical staging (HR 1.74 95% CI 1.11−2.73, p = 0.016). This was also seen with reference to other variables such as pre-operation serum creatinine levels, histological grade and ECOG performance status.
Conclusions: We confirm that a pre-operative serum sodium level is an independent prognostic factor in an external Asian series of RCC patients. We are currently conducting analysis to elucidate the cause of the hyponatremia.

7170 POSTER

Clinical practice guideline impact on referral and treatment rates of neoadjuvant chemotherapy for muscle-invasive bladder cancer: a comparative analysis between two Canadian tertiary care centres

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Background: Level I evidence recommending neoadjuvant chemotherapy (CT) for muscle invasive bladder cancer exists. A Clinical Practice Guideline (CPG) was developed in Alberta, Canada based on this evidence. The primary objective of the current study was to examine the impact of this CPG on referral rates and treatment-offered rates for patients with muscle invasive bladder cancer. We then assessed the degree to which two tertiary health centres in the province of Alberta differed with respect to CPG uptake. Secondarily, the impact of neoadjuvant CT on pathologic response of the disease was examined.
Methods: The study was a retrospective cohort analysis of pooled data from patients who underwent radical cystectomy (RC) for presumptive clinical stage $\geqslant$ T2 bladder cancer at two tertiary care centres in Alberta. Patients receiving care within a 5-year period encompassing the CPG release date were identified and separated into one of two cohorts (pre-CPG [n = 129] from 2.5 to 0.5 years before the release, and post-CPG [n = 107] from 0.5 to 2.5 years after the release). Referral to medical oncology and actual treatment rates were ascertained for each cohort in each of the two centres. Rates of pathologic response among the RC only group and CT plus RC group were also analyzed.
Results: Referral to medical oncology for neoadjuvant CT occurred in 2 out of 129 (1.5%) patients and 23 out of 107 (21.5%) patients in the pre- and post-CPG groups, respectively (RR 13.9, 95% CI 3.3 to 57.5, p < 0.001) with a difference of 6% and 25% between centres. Neoadjuvant cisplatin and gemcitabine (CG) CT was offered to 0 out of 2 (0%) patients and 18 of 23 (78.3%) patients in the pre- and post-CPG groups, respectively (p = 0.02) with a difference of 0% and 7% difference between centres. Four out of 13 (30.6%) patients and 12 out of 223 (5.4%) patients who received neoadjuvant CT plus RC and RC alone, respectively, had a complete pathologic response (pT0) (p < 0.001). Pathologic downstaging (ie, pT < cT) occurred in 8 out of 13 (61.5%) patients who received combined therapy compared to 52 out of 223 (23.3%) patients who had RC alone (p = 0.002).
Conclusions: Referral and treatment-offered rates improved significantly after the release of the CPG. However, these rates are low. The uptake of the CPG between the two tertiary centres varied considerably, indicating a non-uniform and incomplete dissemination of the guideline. The pT0 rate of the CG regimen used in this study was comparable to existing data using a methotrexate, vinblastine, doxorubicin, and cisplatin regimen.

7171 POSTER

Chemoradiotherapy with cisplatin (C) and gemcitabine (G) plus concurrent irradiation (XRT), for the conservative treatment of invasive transitional bladder cancer (ITBC) patients – clinical outcome and long term follow-up in a monoinstitutional experience

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Background: C and G have synergistic activity when used in combination and are both potent radiosensitizers. In a dose finding trial, conducted in our hospital on 16 T2−4 N0 ITBC patients using C and G combined with concurrent XRT, after maximum transurethral resection, the maximum tolerated dose (MTD) of G was 400 mg/sqm (IJROBP 2003; 57: 1310−16). On this basis, we have designed a formal multi-institutional phase II trial, in order to confirm the promising results observed in the previous study. The trial however, was prematurely closed, due to low accrual, so we have