while still detecting 93% of carcinoma and the majority of missed cancer were low grade and low stage.

Conclusions: Measurement of % fPSA can reduce 28% of unnecessary biopsies in patients with PSA level between 4 and 25 ng/ml with a reasonable sensitivity in detecting prostate cancer. The optimal cut off value of 30% fPSA may apply to the cis bio PSA assay for reference.

1397 POSTER

Cisplatin versus carboplatin based chemotherapy as induction chemotherapy of bladder cancer

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Purpose: To compare combinations of the 2 platinum analogues as induction chemotherapy for invasive or locally advanced bladder cancer.

Methods: Patients (pts) with T2-4 N0/+ M0 transitional cell bladder cancer are randomized to either 3 cycles of combination Cisplatin 70 mg/m^2 (Day 1), Epirubicin (E) 50 mg/m^2 (Day 1) and Methotrexate (M) 50 mg/m^2 (Days 8, 15) (Arm A) or Carboplatin 300 mg/m^2 (Day 1) plus E and M at the same doses (Arm B) given every 3 weeks. Consequently all complete responders and pts not feasible or refusing cystectomy are treated with local radiotherapy (60 Gy).

Results: A total of 96 pts (52 in arm A, 44 in arm B) entered the study. The median age is 66 years, while the majority of pts (73) had T2-3 disease. Toxicity was mild. Anemia and thrombocytopenia were more frequent in arm B, while nausea/vomiting was more evident in arm A. Relative dose intensity was higher in Cisplatin arm. There was not statistically significant differences in term of overall response rate (75% vs 60%), complete response rate (44% vs 50%), time to progression (19.6 vs 21.7 months) and survival (51.8 vs 58.1 months), between the two arms..

Conclusions: Carboplatin based chemotherapy appears to demonstrate comparable activity to cisplatin as induction chemotherapy for invasive or locally advanced bladder cancer.

1398 POSTER

Loss of p27Kip1 expression correlates with tumor grade and with reduced disease-free survival in primary superficial bladder cancers

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p27Kip1 is a member of the Cip1/Kip1 family of cyclin-dependent kinase inhibitors and is a potential tumor suppressor gene. The expression level of p27Kip1 has been reported as an important prognostic factor in primary lung, breast, colon, gastric and prostate cancers. This study was undertaken to assess the prognostic value of p27Kip1 in human bladder cancer. The expression of p27Kip1 protein was evaluated by immunostaining in a series of 96 superficial (Ta-1) human bladder carcinomas. p27Kip1 protein was expressed at high (>50% positive cells), moderate (25–50%) and low (<25%) level in 39 (41%), 19 (20%) and 38 (39%) out of the 96 primary superficial bladder cancers, respectively. Decreased p27Kip1 staining correlated with higher tumor grade ($p = 0.0005$). A significant correlation was also observed between high expression of p27Kip1 and increased disease-free survival ($P = 0.003$ by log-rank test) and overall survival ($P = 0.01$ by log-rank test). On multivariate analysis low p27Kip1 protein expression was an independent predictor of reduced disease-free survival second only to tumor stage. These data indicate that p27Kip1 protein is frequently expressed at high level in well differentiated tumors and suggest that this protein might represent a useful prognostic marker for disease recurrence in primary superficial bladder carcinomas.

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1399 POSTER

Prognostic value of growth fraction measurement with MIB-1 in bladder cancer

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Introduction: Prognosis in transitional cell cancer (TCC) of the bladder is usually assessed with the TNM staging system and a grading system (e.g. WHO). We evaluated the prognostic value of growth fraction in TCC with the monoclonal antibody MIB-1 (Ki-67), which suffers less from inter-observer variation.

Methods: Histological tumour specimens of 301 patients diagnosed between 1979 and 1991 were stained with monoclonal antibody MIB-1 and the fraction of positively stained cells was counted. All patients were staged and graded by classical methods and the mitotic index was counted on conventionally stained histological material. Follow-up data from a prospective database were used to calculate crude survival, recurrence free survival (for Ta and T1 tumours) and progression free survival.

Results: In univariate analysis crude survival, recurrence free survival and progression free survival were strongly related to all analysed prognostic factors after an median follow-up of 60 months. In multivariate analysis however, crude survival and progression free survival were only determined by stage ($p = 0.0001$) and recurrence free survival was determined by mitotic index ($p = 0.0246$) and MIB-1 index ($p = 0.0319$).

Conclusion: In this series stage was the most important prognostic factor for crude survival and progression free survival in TCC, while in superficial tumours MIB-1 and mitotic index determined recurrence

1400 POSTER

Bladder preservation with sequential chemotherapy (CT) and radiotherapy (RT)

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Purpose: To evaluate the effectiveness of combined induction chemotherapy and local radiotherapy for invasive or locally advanced bladder cancer.

Methods: Patients (pts) with T2-4 M0/+ M0 transitional cell bladder cancer are treated initially with platinum based chemotherapy, either Cisplatin 75 mg/m^2 or Carboplatin 300 mg/m^2 (day 1) plus Epirubicin 50 mg/m^2 (Day 1) and Methotrexate 50 mg/m^2 (Days 8, 15). Consequently complete responders (CR) are treated with RT (60 Gy). Partial responders (PR) were treated with RT in case cystectomy was not feasible or they refused cystectomy.

Results: A total of 96 pts entered the study. The CR rate after chemotherapy was 47% and the overall response rate was 71%. 71 pts (37 CRs, 34 PRs) underwent radiotherapy. The CR rate after RT was increased by 10%. After median follow-up of 33 months, median time to progression for patients treated with sequential CT and RT is 26.5 months and median survival 58 months. The 5-year survival is 49% and the 5-year survival with intact bladder 42.7%.

Conclusions: Comparable results to radical cystectomy in terms of survival can be achieved with the above combination of CT and RT with high rate of bladder preservation.

1401 POSTER

Technetium-99m labelling of monoclonal antibody, C595 for bladder cancer immunoscintigraphy – Pre-clinical evaluation

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Introduction: Current radiological techniques for staging bladder cancer are inaccurate in up to 40% of cases. We have previously reported on the results of Indium-111 labelled C595 monoclonal antibody immunoscintigraphy and showed that it may offer additional information to current staging techniques prior to radical therapy for invasive bladder cancer. Technetium-99m offers advantages over 111In in terms of cost, availability and quality of imaging. The direct reduction mediated method is a reliable technique for labelling antibodies with 99mTc.