achieved with the combination of GEM and 5-fluorouracil in aRCC pts.; furthermore, our results showed an activity superimposible to that observed with the combination of GEM and Cisplatin. However, the high percentage of patients experiencing long-lasting SD, together with the good toxicity profile we observed, suggests that this regimen deserves further refining and evaluation.

870 POSTER

Long term follow-up in seminoma patients stage I and II A/B after adjuvant irradiation of lymphatic pathways

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Background: Adjuvant irradiation of the lymphatic pathways in seminoma patients is an established treatment. A long-term follow up of more than ten years is rarely reported in literature. The experience of a single institution is presented; recurrences and late effects were evaluated.

Materials and methods: From April 1981 to December 2000 179 patients with a seminoma received irradiation. From 174 patients the records could be evaluated. Median age was 37,8 years (21-74 years) Stage I 156 patients, II A 12 patients and II B 6 patients. In 86 patients the tumour was localized in the right testis, in the left in 84 patients. Histology showed in 167 patients a classical seminoma, in four a spermatocytic seminoma and in the remaining three an anaplastic seminoma. All patients underwent an inguinal orchiectomy followed by irradiation no chemotherapy was administered. Stage I patients received a median dose of 27,7 Gy (1982-1993 26-30 Gy, from 1993 26 Gy n=85), stage II A patients received a median dose of 31,7 Gy and in II B a median dose of 33,5 Gy. Irradiation was delivered with opposing fields using linear accelerator (n=172) and ^{60}Cobalt machine (n=2).

Results: Median follow up for all patients was 89 months. Recurrences occurred in five stage I patients and three stage II patients. One patient developed an isolated in-field recurrence after a dose of 30 Gy. The other locations were mediastinal n=4, inguinal n= 2 and supraclavicular n=1. All patients with recurrences received chemotherapy after biopsy (n=3) or partial surgery (n=3) leading to a complete second remission (median follow up: 66 months, range 5 to 121 months). Recurrence free survival at 10 years was for stage I 95,7% and for stage II 80,8%. Five patients died intercurrent. Overall survival was 91,3% and disease specific survival 100%. No late effects were observed.

Conclusion: The adjuvant irradiation of seminoma patients is well tolerated and able to minimize the risk of a lymph node recurrence. With regard to the benefit the side effects are acceptable.

871 POSTER

Acute toxicity and late GI and GU complications in organ sparing treatment of bladder cancer

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Purpose: To assess the factors predict acute toxicity and late GI and GU morbidity in radiation treatment of the bladder cancer. To investigate whether rectal and bladder volume which are in the treatment field can be used to identify risk groups for developing late gastrointestinal (GI) and genitourinary (GU) complications after organ sparing treatment of Bladder Cancer.

Method and Materials: A total of 41 patients with bladder cancer treated with definitive radiotherapy and with / without concomitant chemotherapy with a minimum of 3 years follow-up were evaluated. Patients were scanned with computerized tomography for treatment planning and treated with conventional box techniques. These patients were treated to a median total RT dose of 66.6 Gy at 1.8 Gy per fraction and 22 patients were treated with cisplatin 30 mg/m2 for 2h IV at weekly intervals in combination with RT. The irradiated rectal surface area for a given dose were calculated for a group of 41 patients treated with a four-field box techniques to a total (tumor minimum) dose range 64.8 to 68.4 Gy. The incidence of acute toxicity and late GI and GU complications was classified using the RTOG/ EORTC and the SOMA/LENT scoring system.

Results: Acute GI (7 patients) and GU (8patients) were noted grade 2 or higher side effects. Two patients had both side effects. GI acute side effects were not correlated with GU acute side effects. Late morbidities were not correlated with acute morbities. Two patients had grade 2 or 3 late effects of GI morbidities. Four patients had grade 2 or 3 late effects of GU morbidities. Higher T stage, involvement of pelvic lymph node and age(> 60 years) were significantly related to late GI and GU morbidity (p=0.061;p=0.014;p=0.001 respectively). The relative rectum wall and filling volumes which are in the treatment field correlated with acute toxicity and late GI complications. Relative bladder filling volumes also correlated with acute toxicity and urinary incontinence.

Conclusions: Both acute toxicity and late GI and GU morbidity demonstrated a volume dependence of rectum and bladder in the treatment field. Moreover both late GI and GU morbidity increased in patients more than 60 years old.

872 POSTER

Rectal toxicity and quality of life after definitive conformal radiation therapy (CRT) of patients with prostate cancer

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Background: To evaluate the impact of chronic rectal toxicity, especially rectal bleeding, on health related quality of life after definitive CRT of localized prostate cancer.

Material and methods: 173 patients were contacted a median of 46 months (24 98 m.) after CRT. Median age was 75 years (57 96 y.). Median dose to the prostate was 70 Gy (59 74 Gy). 80% of the patients had received short term neoadjuvant hormonal therapy before and during RT. Rectal toxicity was evaluated with a standardized 8-item toxicity score and rectal continence was evaluated with the Jorge and Wexner rectal continence score (JW-score). The EORTC quality of life questionnaire C30 (QLQ-C30, version 3) and the prostate cancer module QLQ-PR25 were used to evaluate quality of life. Analysis of variance was carried out to detect associations between rectal toxicity and quality of life.

Results: 25% of the patients stated to suffer presently from rectal bleeding: 10% experienced bleeding less than once/month, 10% had bleeding less than once/week and 5% reported at least weekly bleeding. The prevalence of the other rectal/bowel symptoms was: loss of mucous 10%, defecation pain 8%, bowel cramps 8%, flatulence 42%, diarrhea 26%, urge 27%. Overall 56% of the patients stated some kind of rectal incontinence on the JW-score (JW-score > 0). Rectal bleeding was not associated with global quality of life (QoL) nor with any other of the scales of the QLQ- C30. Patients with rectal bleeding had higher rectal symptom scores on the PR25 bowel scale ($p<0.001$) but rectal bleeding is one of it's items. None of the other rectal symptoms except for incontinence was associated with global quality of life. Patients with a rectal incontinence score of > 2 (n = 51) had worse QoL-values than those with a better or perfect continence (p=0.003). Age or the use of neoadjuvant hormonal therapy did not correlate with global quality of life.

Conclusions: Chronic rectal bleeding after CRT is common but it is mostly intermittent and it does not interfere with the patient's quality of life. Various degrees of rectal incontinence after CRT are frequent. Nevertheless only those patients with a JW-score of > 2 also report lower quality of life scores. Further research is needed to explore if there is an association between rectal continence and dose-volume histogram data.

873 POSTER

Predictors of late rectal and urologic side-effects after conformal radiation therapy (CRT) of patients with prostate cancer

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Background: To evaluate predictors of chronic rectal (GI) and urologic (URO) toxicity after CRT of prostate cancer.

Material and methods: 302 patients with a median follow up of 33 months (12 85 months) were evaluated. Median dose to the prostate was 70 Gy (59 74 Gy). 235 patients (78%) had received short term neoadjuvant hormonal therapy (HT) before and during RT. Toxicity was evaluated with a modified RTOG-score. Every macroscopic rectal bleeding was classified at least as grade II.

Results: Incidence of GI toxicity: table 1; Incidence of URO toxicity: table 2. No grade IV or grade V side-effects were observed.

Correlation of the following variables with grade II/III late toxicity was evaluated: Age, body mass index, prostate dose, inclusion of the seminal