Uro 21

REDUCTION OF GONADAL DOSE TO PRESERVE FERTILITY IN PATIENTS TREATED FOR SEMINOMA TESTIS

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From January 1966 until June 1985 a total of 186 patients with pure seminoma have been treated in the Department of Radiotherapy in Freiburg. The five-year survival rate was 97%. Since most of the patients are in reproductive age radiation exposure of the remaining testicle is an important aspect to be considered. In this connection, phantom and in vivo measurements by means of a thermoluminiscence dosimetry system were made. Simulation of a dorsoventral treatment using a sagittal view made evident that without a gonadal shield the dose 6 cm outside the field boundary amounts to 5% of the total dose. This means, considering the treatment of the paraaortal and iliacal nodes with 3000 cGy it corresponds to a gonadal dose of 150 cGy. In vivo measurements were made to find out the dose reduction while using a capsule consisting of 20 mm woodmetal. Exposure of the remaining testicle was as follows: Treatment volumes: paraaortal + iliacal: 0.8% of total dose / paraaortal + iliacal + inguinal (unilateral): 2.8% of total dose / paraaortal + iliacal + inguinal (bilateral): 4.9% of total dose. Significant dose reduction can be achieved by inguinal irradiation with electrons. Dose reduction comes up to 70-80% compared with photon irradiation. With paraaortal, iliacal and bilateral inguinal application of 3000 cGy the gonadal dose is 36 cGy with 3600 cGy the gonadal dose is 43 cGy. Therefore, exposure ist in a range which allows complete spermatogenic recovery.

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Uro 22

CHEMOTHERAPY OF EXTRAGONADAL GERM CELL TUMOR

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Prognosis of primary extragonadal germ cell tumor is reported as being less favorable than that of gonadal tumor because of diagnostic difficulties resulting in high tumor burden at start of therapy. We report our experience with 16 pts with primary extragonadal germ cell tumor. 14 pts had nonseminomatous and 2 seminomatous tumors, in 6 cases tumormarkers AFP and/or hCG were in part extremely elevated . All had lymphnode involvement: 6 retroperitoneal, 7 mediastinal/cervical, and 3 both - diameter exceeding 10cm in 8/16 pts. Organ metastases were found in 6 pts (4 only lung, 2 concomitant liver and bone). Treatment consisted of Cisplatinum/Vinblastine/Bleomycin (PVB) in 9 cases, Vinblastine/Ifosfamide/Platinum (VIP) in 3 cases, Etoposide/Cisplatinum/Bleomycin/Cyclophosphamide (ECBC) in 2 cases; 2 pts were treated only with Vinblastine/Bleomycin because of intensive myelosuppression due to prior radiotherapy. Complete remission was reached in 7/14 nonseminomatous pts (50%) and 2/2 seminoma pts with duration from 12+ to 68+ months (median 33+ months). 1 pt with nonseminomatous tumor had a relapse after 36 months of CR. At the time of relapse lymphnode metastases were found in retroperitoneum from a newly developed gonadal tumor in the left testicle (pure seminoma). In all other cases no testicular tumor was found at the time of diagnosis and during follow up sonography. 7/14 nonseminomatous pts had progressive disease, all but one had bulky tumor. In 5 cases start of adequate therapy was delayed up to 7 months. In conclusion the prognosis of extragonadal germ cell tumor is not as good as in the cases of gonadal tumor but improved diagnosis and intensification of primary chemotherapy will produce better results in the near future.

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Uro 23

RELAPSE OF NONSEMINOMATOUS TESTICULAR CANCER (NSGCT) AFTER COMPLETE REMISSION INDUCED BY CHEMOTHERAPY (III-IV) OR BY SURGERY ALONE (I-II B).

W. Mair, Ch. Clemm, H. Ehrhart, G. Staehler and W. Wilmanns

The group treated with chemotherapy consisted of 149 pts. (III-IV). 111 pts. = 75% reached CR, by chemotherapy (PVB). 13 pts. = 12% relapsed after disease free intervall of r = 4-15 months (m = 7). At primary diagnosis 1 pt. had stage III and 12 pts. stage IV. 6 pts.= 59% had extended disease. 3 pts. had metastases in more than 1 localisation. Both tumourmarkers AFP and ß-HCG were elevated in 5 pts. In 7 pts. the chemotherapy was modified: mainly dose-reduction, prolongation of therapy-intervall and insufficient chemotherapy without cisplatinum (3 pts.). In relapse 6 pts. had clinical symptoms. In the other 7 pts. the relapse was diagnosed by technical investigations. The relapse was treated with CNS-radiation in 4 cases, chemotherapy in 10 cases. Objective response was observed in 9 pts. = 69%: 2 pts. had PR = 15%: 7 pts. had CR = 54%. Duration of response (months): $m = 18^{+}$, $r = 1^{+}-64^{+}$.

The group treated with surgery alone consisted of 39 pts., of whom 18 pts. relapsed. Primary stage of disease was surgically documented stage I in 9 pts..In the other 9 pts. only 3 pts. had surgically documented lymphnode-involvement (pN1). 3 pts. were primary treated with radiation after surgery. Relapse-free-intervall (months) r=4-64, m=9. Sites of relapse were abd. lymphnodes in 6 pts., lung in 6 pts. and both in 3 pts. Tumourmarker elevation was found in 11 pts. (in 3 pts. = first sign of relapse). The 18 pts. in relapse were treated with chemotherapy (PVB) followed by secundary thoracotomy in 5 pts. 2 pts. had PD and 1 pt. was not evaluable for response. Duration of CR (month): $r=6^{+}-76^{+}$, $m=36^{+}$.

Conclusion: The response-rate of tumour-relapse in the group with initial chemotherapy (54%) is significantly lower than in the other group (83%). Besides the large tumourburden, chemotherapy-modifications seem to have a negative effect. Important is the high incidence of brain-metastases in pts. with bulky-disease. In the group without primary chemotherapy the relapse-free-intervall seems to be longer. This may be one cause for a better response, but the CR-rate of 83% is not sufficient. Exact surgical staging, complete and precise examination during a follow-up programm (for more than 5 years) are needed to improve the prognoses up to the level of nearly 100%, which is reported for adjuvant chemotherapy.

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Uro 24

ADJUVANT CHEMOTHERAPY IN NON-SEMINOMATOUS TESTICULAR TUMOR STAGE II.

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In view of the high curability of early stage non-seminomatous testicular germ cell tumor being achieved today,efforts must be made to decrease the morbidity of current treatment regimens. Preliminary results are presented of a randomized multicenter trial which is to investigate the necessary extend - if any - of adjuvant chemotherapy in stage IIA (solitary retroperitoneal LN-metastasis$\leq$ 2 cm) and stage IIB (retroperitoneal LN-metastases$<$ 5 cm, resectable). Post-RLND pts. are randomized to observation vs. 2 courses PVB(1) in stage IIA, and to 2 vs. 4 courses PVB in stage IIB (2,3).

Between IV/82-VII/85, 43 pts. IIA and 156 pts. IIB have entered the protocol. 31 and 117 pts. resp. have been followed for 3-24 months (median 13.5-16 mo.). One IIA pt. (observation arm) and 2 IIB pts. (with 2 courses PVB) have relapsed. One pt. died of pneumonia after 1 course PVB. Toxicity was tolerable in 80 % of pts. receiving 2 courses and in 47 % of pts. scheduled to receive 4 courses. In most cases dose reductions were based on subjective side-effects, not on objective toxicity.

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