

1-4), DTIC (200 mg/m², days 1-4) and doxorubicin (25 mg/m², days 1-2) augmented in time and administered in 14-day-intervals made possible by subcutaneous administration of G-CSF (30 × 10⁶ IU/d) on days 5-13. According to the randomization protocol, 28 patients received adjuvant HA-RT only, whereas 31 patients were treated with additional adjuvant ACT. After a mean observation period of 41 ± 19.7 (range: 8.1-84) months, 16 patients (57%) after adjuvant HA-RT vs. 24 patients (77%) after adjuvant HA-RT + ACT were free of disease ($p > 0.05$). Within the HA-RT group, tumor relapses occurred in 12 patients (43%); 6 patients with distant metastases, 2 with local relapse, 4 with both) vs. 7 patients (23%); 5 patients with distant metastases, 1 with local recurrence, 1 with both) from the HA-RT + ACT group. Mean relapse-free survival ($p = 0.1$), time to local failure ($p = 0.09$), time to distant failure ($p = 0.17$) as well as overall survival ($p = 0.4$) did not differ significantly between the two treatment group. However, subgroup analysis of grade 3 soft tissue sarcoma revealed a significant advantage of both relapse-free survival ($p = 0.03$) and time to distant failure ($p = 0.03$) in patients receiving HA-RT + ACT ($n = 25$) as compared to patients treated with HA-RT only ($n = 16$).

Treatment-associated toxicity in patients receiving HA-RT + ACT included alopecia of WHO grade 3 in all cases, leukopenia of WHO grades 1 and 2 in 19 patients (61%), grade 3 in 4 (13%) and grade 4 in 4 patients (13%), thrombocytopenia grades 1 and 2 in 7 patients (23%), grade 3 in 1 patient (3%) and grade 4 in 1 patient (3%). Non-hematologic toxicity consisted of stomatitis WHO grade 3 in 1 patient (3%). In 2 patients (6%), ACT was discontinued after 2 cycles due to impairment of wound healing. Acute local toxicity was mild (2 versus 3 moist desquamation in the HA-RT and HA-RT + ACT groups, respectively). Severe late local toxicity consisted of two infected endoprostheses (one in either group), one fracture of an irradiated thigh (HA-RT + ACT), and one case of severe fistulation with bone necrosis leading to amputation without evidence of local relapse (HA-RT + ACT).

We conclude that the addition of adjuvant ACT to adjuvant HA-RT in patients with surgically adequately removed grade 3 STS significantly improved relapse-free survival as well as time to distant failure. Furthermore, the inclusion of ACT should be considered in the treatment of grade 3 adult STS.

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POSTER

Prognostic factors in completely resected liposarcomas (LPS)

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Purpose: The aim of this study was to identify prognostic factors regarding recurrence and survival after complete resection of LPS.

Patients and Methods: All consecutive LPS (reviewed diagnosis), treated with curative intent at the G.U.H. from 1977-1997, were analyzed.

Results: 66 pts (35, 31; median age: 53 (range 11-80) years) were reviewed. 49 primary LPS, 17 recurrent LPS. Histology: myxoid $n = 31$, well-differentiated $n = 22$, dedifferentiated $n = 7$, pleomorphic $n = 3$, nos $n = 3$. Grade I: $n = 48$, grade II: $n = 10$, grade III: $n = 6$, nos: $n = 2$. During a median follow-up of 58 (range: 5-210) months, 20 pts developed a local recurrence (30%), and 11 pts distant metastases (17%). At analysis, histologic subtype and anatomic site were the only independent prognostic factors regarding local recurrence, tumor grade regarding distant metastases, and histologic subtype and tumor grade regarding disease-free and overall survival. Retroperitoneal localization, dedifferentiation and grade II-III were negative prognostic factors. Size, primary/recurrent LPS, and type of resection were not independent prognostic factors.

Conclusion: LPS have a relatively mild biologic behavior, with exception of dedifferentiated LPS and grade II-III tumors. Independent prognostic factors regarding recurrence, metastasis and survival are anatomic site, histologic subtype, and grade.

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POSTER

OSAD93: A multicentric pilot study of high dose ifosfamide (HDI) and CDDP in adult patients (PTS) with non metastatic osteosarcoma

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Purpose: Based on previous results in adults (Proc. ASCO 1993, abst.

1646), a multicentric pilot study of neoadjuvant chemotherapy with HDI and CDDP was initiated in pts > 16 years (ys) with osteosarcoma, in 1993.

Methods: 4 preoperative courses (crs) of SHOC (Ifosfamide: 3 g/m² d1 to d3 CDDP: 100 mg/m² d4) were given, followed by local treatment. Post operative chemotherapy was: 1) 3 crs of SHOC in pts with ≤10% viable tumor cells, 2) 3 crs of HOCA (Adriablastin: 60 mg/m², d1 to d2; Ifosfamide: 3 g/m² d1 to d2, CDDP: 100 mg/m² d3) in pts with >10% of viable tumor cells.

Results: 59 pts were included: 14 females/45 males; median age: 28 (range: 16-64). Tumor sites were: femur (25), tibia (10), humerus (6), flat bones (15), others (3). The toxicity of pre-operative SHOC was evaluated in 213 crs. Grade 3 and 4 neutropenia, and febrile neutropenia occurred after 19%, 40% and 10% of crs respectively; growth factors were administered in 20% of crs; grade 3 and 4 thrombopenia in 11% and 5% of crs respectively; grade 3 and 4 anaemia in 9% and 4% of crs respectively; grade 3-4 vomiting occurred after 21% of crs; grade 3 infections occurred after 5% of crs; 2/3 of patients underwent grade 3 alopecia after the 4th course; hospitalisation for toxicity occurred after 20% of crs. 53 pts underwent surgery after pre-operative SHOC (45 conservative; 8 radical). The pts who had progressed before surgery were considered as poor responders. Therefore, the histological response was: 16 (29%) good responders (Huvos 3-4), 40 (71%) bad responders (Huvos 1-2). With a 33 months median follow-up, overall and progression-free survival at 4 ys are 56% and 43% respectively.

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POSTER

Neoadjuvant radiochemotherapy (RCT) in soft tissue sarcoma

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Purpose: To evaluate response, long-term control, functional outcome and toxicity following neoadjuvant RCT in advanced and recurrent soft tissue sarcoma.

Methods: Between 1992 and 1998, a total of 23 patients in whom primary curative limb sparing surgery seemed impossible entered the study. Sixteen patients (pts) had primary and 7 pts recurrent sarcoma. The stages (UICC 1997) were: rIA (2), rIIA (5), IIA (4), IIB (2), III (7), IV (3). RCT consisted of an accelerated split-course radiation (1.5-1.6 Gy twice daily, median total dose 60 Gy, range 60-64 Gy, break of 1 week after 30 Gy) with concomitant chemotherapy using adriamycin (50 mg/m²/d on days 2 and 30) and ifosfamide (1.5 mg/m²/d on days 1-5, 29-33). Median follow-up was 26 months (range 2-92 months).

Results: 22 pts underwent surgery with a curative (R0) resection being achieved in 20/22 (91%) pts and gross residual (R2) tumor or unclear tumor margins (RX) in 1 pt, respectively. Effective tumor-downstaging was documented in 4/22 (18%) pts (ypT0: 3 pts, ypT1: 1 pt). Long-term local tumor control after R0/RX resection remained 100%. Delayed wound healing was only noted in 1/22 (5%) patient. Four pts developed distant metastases. Overall-, NED- and distant-metastases-free survival rates were 83%, 64% and 68%, respectively, at 3 years. Grade 3/4 neutropenia (WHO) was seen after 21/46 (46%) cycles of chemotherapy with one pt dying of septicemia. The functional results were good to excellent in 18/22 (82%) pts.

Conclusion: Accelerated split-course radiation with 60-64 Gy and concomitant chemotherapy using adriamycin/ifosfamide is a safe and effective treatment for soft tissue sarcoma. This regimen may be considered in all cases with recurrent and advanced disease not amenable to primary curative or limb sparing surgery.

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POSTER

Surgical management of gastrointestinal stromal tumors (GIST)

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Purpose: Clarify the surgical treatment of GIST.

Methods: 56 patients were identified from a single institution database. Local (L) or metastatic (M) first recurrence (R) were studied according to the type of surgery: wedge resection (WR) or organ resection (OR). When stomach or rectum were resected, total (T) and partial (P) resection were compared (total/partial gastrectomy; anterior resection/rectum abdomino perineal resection)

Results: Median age was 55 years. Location: stomach (Stom) 25, duodenum (Duod) 6, small intestine (Small int.) 19, rectum (Rect) 6. 7 patients