

yr. ($p < 0.001$), low malignancy grade ($p = 0.02$), lipomatous histomorphology ($p = 0.003$), non-invasive growth ($p < 0.001$), and the absence of distant metastasis ($p = 0.005$) were associated with favourable outcome. Malignancy grade, and the extent of surgical treatment remained independent prognostic factors in a multivariate context. The level of experience was associated with a higher rate of radical resections ($p = 0.009$), but did not affect outcome.

Conclusion: Survival of patients with RSTS was determined independently by the extent of surgery, and malignancy grade. The level of experience, although influencing the result of surgery, did not affect long term outcome.

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POSTER

Long term results of expanding prostheses for limb salvage surgery of children

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Introduction: Conservative surgery for young children with bone sarcoma of lower limb remains a challenge. In 1985 we proposed an expandable prosthesis and present here our long-term results.

Patients: 44 patients (20 males and 24 females aged 4-28 years) with tumors of the limbs were treated by our team between 1984 and 1999. Histology was mostly osteosarcoma (32) and Ewing's sarcoma (9). Locations were distal femur in 30, upper tibia in 5, total femur in 5 and proximal femur in 4. 30 were first hand patients (28 with localized disease and 2 already metastatic) en bloc resection. The 14 other patients were referred to us after induction therapy, with progressive disease, metastase (3) or local recurrence (1).

Method: In 14 patients the expanding prosthesis was inserted immediately after the resection, in 8 during the following year and for the 22 other patients later on to treat a length discrepancy. 107 sequences of lengthening have been performed in 40 patients. All patients were followed up by their surgeon and their chemotherapist every 3 months during 2 years, then every 6 months for 2 other years and yearly thereafter.

Results: 6 patients died from illness. All other are disease free survivors with a median follow up of 91 months (maximal 192 - minimal 6). Half (22) of the patients are adults. The average lengthening is 4.07 centimeters (minimal 0.5 - maximal 12). Half of the patients had to be reoperated for complications. Deep infection occurred in 10 patients (22%) resulting in amputation for 3 of them. According to EMSOS criteria the functional result is excellent in 14, good in 15, fair in 10 and poor in 5.

Conclusion: Long term results of lengthening prostheses confirm that this procedure is an excellent alternative to amputation and permit to keep a functional limb in nearly 90% of patients. The most severe complication is deep infection underlining the interest of last generations of grower with minimally invasive lengthening.

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POSTER

Intraperitoneal chemotherapy (IPC) after complete resection of peritoneal sarcomatosis (PS): Results of a monocentric randomized study

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Purpose: In order to decrease locoregional relapse after complete resection of PS, the role of IPC was prospectively evaluated.

Methods: Patients (pts) with complete resected PS were randomised between adjunction of IPC or not. IPC consisted of Doxorubicin, 0.1 mg/kg and Cisplatin, 15 mg/m² every day for 5 consecutive days.

Results: Thirty-eight consecutive pts have been enrolled in the study, 19 in each group (IPC-, IPC+) with a M/F sex ratio of 14/24. Median age was 58 (39 to 72) and 48 yrs (31 to 71) in IPC- and IPC+ group respectively. Ratio of retroperitoneal (RPS) and visceral (VS) sarcomas were 9/10 and 6/13 in IPC- and IPC+ group respectively. Histoprognostic grade were similar in both groups. Sugarbaker score of sarcomatosis were 13 (3, 27) and 13.7 (2, 20) in IPC- and IPC+ respectively. Mean number of resected organs in each group (IPC-, IPC+) was 3.1 and 2.7 respectively. There was no toxic deaths and morbidity was similar in both groups (4 pts in each group). Median time of hospitalization was 22 days (range 11 to 39) for IPC- and 24 days (range 15 to 42) for IPC+. The median follow-up is 36 months. The median local relapse-free, metastatic relapse-free survival and overall survival were identical in both groups, 12.5, 18 and 29 months respectively with no difference between RPS and VS.

Conclusion: Addition of IPC did not modify outcome of pts after complete resection of RPS and VS. OS and DFS of this study are similar to those observed in phase II studies combining IPC with hyperthermia. An optimal surgery of PS remains the only pronostic factor for survival.

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Efficacy of the neoadjuvant chemotherapy with regional hyperthermia in high-risk soft tissue sarcomas. 1

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Purpose: The efficacy of neoadjuvant thermochemotherapy was investigated.

Methods: We report the results of phase I/II studies of treatment of 22 patients with II and III grade extremities soft tissue sarcoma (STS). All patients had extracompartmental lesions, tumour size > 8 cm (mean 12 cm). Mean tumour volume was 540 cm³. The preoperative chemotherapy with Cisplatin (DDP) 120 mg/m² and Adriamycin (ADR) 90 mg/m² (1 day) for 6 weeks (2 cycles) combined with 2 fraction of regional hyperthermia (RHT), (60 min., 43.0° C.) day 1, 3.

Results: Limb - saving surgery was performed in 19 (86.4%) cases consisting of wide compartmental excision of the tumour. Mutilating surgery was performed in 3 cases. Treatment efficacy was assessed by clinical, morphological response and follow - up for systemic and local relapse. The efficacy rate was 50% or more. The mean tumour necrosis (>70% cells) rate in the resected specimens was 81.8%. There was no correlation between the histological response and the observed reduction in tumour volume. Postoperative complications were observed in ten (45.5%) patients; among these, 4 patients developed wound infection that required surgical treatment as a complication of surgery performed in the early stage following the preoperative treatment. After a mean postoperative follow-up of 27 months, distant metastasis occurred in six (27.3%) patients resulting in 5 fatalities. The three-year cumulative survival rate was 64.3%. No local recurrence was observed in any patient during the follow-up, thus confirming our hypothesis that DDP + ADR + RHT treatment has an excellent local efficacy.

Conclusions: The results of this study suggested that DDP + ADR + RHT was an effective local treatment for limb salvage in limb-threatening STS. We think that it would be valuable to conduct, at many facilities, phase III studies on the treatment of soft tissue sarcoma by a combination of surgery and preoperative multidisciplinary treatment using hyperthermia.

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POSTER

Neoadjuvant chemotherapy in limb soft tissue sarcoma: the significance of C-ERBB-4 expression

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Purpose: ErbB-4 is a recently described member of the epidermal growth factor receptor (EGFR) family. Relatively little is known about the expression of erbB-4 in human tumors. In the present study we assessed the possible role of c-erbB-4 expression product as a tissue marker for STS, and its correlation with the response to chemotherapy.

Patients: The histological specimen of 29 patients with STS of a limb who had received preoperative doxorubicin-based chemotherapy were studied. The extent of tumor necrosis was evaluated histologically. Paraffin blocks of preoperative incisional biopsy were available for immune staining (avidin-biotin-peroxidase technique) from 29 patients, and blocks of the surgical specimen after pre-operative chemotherapy were available from 27.

Results: The objective response rate to preoperative chemotherapy was 34%. Wide resection of the tumor was feasible in 12 patients, marginal resection in 14 cases, amputation in 2 patients with disease progression, and no surgery in one case. The tumor necrosis was above 90% in 9 patients, 60-90% in 12, and less than 60% in 7 patients. An increase in C-erbB-4 expression was more common in cases with no response to chemotherapy, while no change of or decrease in C-erbB-4 was more common in responsive tumors ($p = 0.004$). No correlation could be found between the degree of necrosis or the chemotherapeutic regimen and the change in expression of c-erbB-4. The median DFS was longer for patients with a decrease or no change in expression of C-erbB-4 than for patients with increased expression.