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LIMB SALVAGE IN FRACTURED BONE SARCOMASG. DELEPINE*, N. DELEPINE, J.C. DESBOIS, *R. Debré Hosp. PARIS FRANCE*

INTRODUCTION : First symptom of illness or complications during preoperative chemotherapy, fracture remains for most authors an indication for amputation. We tried in these cases limb salvage and present here our results.

MATERIAL : Since 1980, we have performed 252 limb salvage for Ewing and osteosarcomas, among them, 16 were fractured before definitive surgery. Histology was osteosarcoma in 10 and Ewing's in 6. Location was humerus in 5, femur in 9, tibia in 1 and 1 ilium. En bloc resection was performed in all cases by the same surgeon after 4 weeks to 3 months of orthopaedic treatment and chemotherapy according to the type of tumor. Histologic examination of margins showed that resection was wide in 6, marginal in 9, contaminated in 1. Postoperative chemotherapy was continued in all cases during 6 to 12 months. Adjuvant radiotherapy was added in 7 cases (bad responders to preoperative chemotherapy).

RESULTS : With a median follow up 63 months, 4 patients (all bad responders) died, and 12 are alive without disease. No local recurrence was observed. According to the European Society for soft and bone tumors oncology (EMSOS), the functional results is rated : excellent in 7, good in 6, fair in 2, bad in 1.

CONCLUSION : Fracture should no longer be an indication for amputation if :

- 1°) en bloc resection is performed after long enough orthopaedic treatment in order to permit to enclose the hematoma,
- 2°) if very effective adjuvant treatment given.

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PROGNOSTIC FACTORS FOR SURVIVAL OF PATIENTS WITH SARCOMA.

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Objective: Determination of prognostic factors survival of patients with soft tissue sarcoma referred to the Royal Marsden Hospital.

Patients: 470 males and 389 females, median age 45 referred to the RMH 1970-1990. 51% were situated in extremities, 18% head and neck, 4% visceral, 15% retroperitoneal, 11% truncal. malignant fibrous histiocytoma (23%), liposarcoma (15%), leiomyo-sarcoma (9%) and synovial sarcoma predominated. 442 were high, 86 intermediate, and 234 low grade, mean size 9cm. 203 developed metastases, 36 lymph nodes. "Adequate" surgical clearance was achieved at the first operation in 150 patients; 453 received radical radiotherapy; 239 recurred locally. 359 have died; mean follow-up 1300 days.

Methods: Logrank analysis was used to compare groups. BMDP6M multivariate analysis was carried out using time to local recurrence, time to nodal disease, and time to metastasis as time-dependent covariates.

Results: On univariate analysis 5 year survival was inversely correlated with age (<50 years -70%; >50 - 60%) and tumour size (<=5cm - 75%; >5cm - 60%), and related to site (extremity -75%; head & neck - 55%; retroperitoneal - 40%; visceral - 30%) and grade (low/intermediate - 75%; high - 55%). On multivariate analysis significantly reduced risk of death was associated with low/intermediate grade tumours (0.38); & age less than 40 years (0.56). Increased risk occurred in visceral (3.7) and head and neck (2.5) sites; tumours >10cm (1.5); and in association with local recurrence (4.3), nodes (6.6) and metastases (10.5).

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AGGRESSIVE FIBROMATOSES CONTROLLED WITHOUT SURGERY. 15 ADVANCED CASES TREATED WITH CHEMOTHERAPY.

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In the management of aggressive fibromatoses it is not rare the event of a lesion no more amenable with surgery. A new chemotherapy regimen with Methotrexate (50mg) and vinblastine (10mg) delivered intravenously every week was suggested in literature (Weiss AJ et al. Cancer 1989) and has been reproduced in our Institute since. The treatment was scheduled for at least 36 cycles, and no more than 52. From September 89 up to February 91, 15 cases entered this study. Seven males and 8 females, median age 30 years. Tumor site: 6 scapular girdle, 4 thigh and gluteus, 2 arm, 1 maxillary sinus, 2 intrabdominal in Gardner's syndrome. All had previous surgery, and 7 had surgery + RT. All the lesions were inoperable or demanding a major exarticulation. In four cases the treatment was interrupted for different reasons (two pts. with intra-abdominal desmoid tumors had intestinal complications and palliative surgery was performed after the 3rd and 7th cycles respectively, one patient died for lung metastases of a previous seminoma, an the other had severe neurotoxicity after two cycles). Eleven cases received a median 31 cycles (range 18-52). In 8 patients doses were reduced and/or time delayed for toxicity: nausea and vomiting (3 pts), neurotoxicity (3 pts), leucopenia (2 pts). Other patients suspended the treatment for psychological intolerance; only 4 cases received more than 36 cycles. All the evaluable cases revealed a grade of response and 7 (64%) documented an objective improvement. The local response was stable in all cases, median follow up being 34 months (range 24-42). A correlation between the number of cycles delivered and the quality of local response was evident. The patient who received 52 cycles had the best local control and is still presenting a tumor shrinkage six months after the last cycle. The chemotherapy regimen was frequently unattended and the schedule should be modified in doses and drugs nevertheless it is surely a new and unexpected chance for these difficultly amenable lesions.

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CORRELATIONS BETWEEN MARGINS AND LOCAL RECURRENCE RATE IN SURGERY FOR OSTEOSARCOMAS (OS)G. DELEPINE*, N. DELEPINE, J.C. DESBOIS *-R. Debré Hosp. 75019 PARIS*

INTRODUCTION : After limb salvage for high grade OS, local control relies on the adequacy of surgery and effectiveness of adjuvant therapies. Most authors estimate that wide resection is mandatory to obtain local control compelling to choose amputation in case of big tumors closed to the vessels, or nerves.

MATERIAL : In order to evaluate the real risk of local recurrence according to histological margins we reviewed 151 patients (p.) we treated for limb high grade OS with a median follow up of 60 months (m.). Margins were evaluated by anatomopathologist after discussion with surgeon.

RESULTS : 6 had amputations (all radical), none had local recurrence, 3 died. 52 were treated by wide resection, 4 had local recurrence, 15 died. 87 experimented marginal resection, 6 had local recurrence, 26 died. 6 had contaminated resection, 2 had local relapses, 4 died. In this serie, local recurrence risk doesn't hang on wide or marginal quality of resection if really extratumoral but on the circumstances we had first seen the p, and on adjuvant therapy. Local recurrence risk of p. seen before biopsy, and treated by T10 C or OS DD1, is 2%, of p. seen after biopsy 5% and of p. without CT or CT done somewhere else : 15 %.

CONCLUSIONS : Marginal en bloc resection is a carcinologic procedure if tumor is not entered during operation, if biopsy is adequately performed, if efficient adjuvant CT give the control of local and pulmonary metastases. In our experience limb salvage is feasible in 97 % cases and local recurrence risk is 2 % when treatment (including initial management) is adequate.

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LIMB SALVAGE IN BONE SARCOMAS (BS) ABOUT 357 CASES TREATED BY OUR MONOCENTRIC MULTIDISCIPLINARY STUDY.

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MATERIAL : From 81, we treated 357 BS by a multidisciplinary limb salvage protocol. Histology included 165 osteosarcomas (OS), 92 chondrosarcomas, 87 Ewing's sarcomas (EW), 13 others. Average age of patients (p.) was 27.5 years (y.) (491 y). Average tumor's size 13.5 cm (4/42 cm). Enneking's staging was 8 IA, 30 IB, 3 IIA, 27 IIB, 2 IIIA, 43 IIIB. Extratumoral en bloc resection was performed in all cases by the same surgeon (large in 165, marginal in 184, intrafocal in 8). 35 gy postop radiotherapy (RT) was delivered in 75 EW and OS (bad responders to preop chemotherapy CT). EW and OS received short preop CT, followed by postop CT during 8 to 12 months (m).

RESULTS : At last FU (median 6 y, min 6 m, max 130 m), 256 p. are N.E.D., 2 are in treatment and 99 are dead from ED. DFS for p. seen with local disease is 85% at 2 y, 80% at 3 y, 78% at 5 y. Functional results are excellent in 49%, good in 30%, fair in 12%, and poor in 8%. 21 local relapses were observed (6%). **STATISTICAL ANALYSIS** points out the major prognostic value of the therapeutic factors : In OS CT's effectiveness - in EW en bloc resection of primary + CT - in low grade chondrosarcoma immediate local control - local recurrence rate doesn't hang on tumoral size, age, type of resection but only on the experience of the surgeon and on the circumstances in which p. is seen : * for p. seen before biopsy ; 100% feasibility of conservative surgery, 3% local recurrence, 85% 5 y DFS. * for p. seen after local recurrence, 70% conservative surgery, 35% 5 y DFS. * for p. seen with local recurrence and metastasis only 5% 5 y DFS. **CONCLUSION :** With a multidisciplinary approach, conservative surgery is feasible in 97% of cases.

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CAN CD PLATINUM BE A TREATMENT OF CHOICE IN HIGH GRADE SOFT TISSUE SARCOMAS?J. Cervek, R. Golouh, B. Zakotnik
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Cisplatinum (CDP) was delivered intraarterially to 13 pts (age 18-72 yrs; mean 47 yrs) with locally advanced (>10 cm pre-treatment diameter), high risk soft tissue sarcoma of the limb with the intent to reduce tumor mass, thus facilitating a subsequent limb salvage procedure. Tumors were located in the thighs (10/13) and leg (3/13), and classified as: MFH (9/13), PNET (1/13), liposarcoma (1/13), RMS (1/13) and LMS 1/13. 120 mg/m² of CDP were given in a 6-hr i.a. infusion at 2-week intervals. The treatment effect was evaluated by clinical (shrinkage, pain, mobility, margin definition) and pathological parameters; according to the latter criteria, the lesions with >75% necrosis, fibrosis and hyalinization without the presence of tumor cells were considered responders. Clinical response was observed in 6/13 and pathological in 8/13. Limb salvage rate was 12/13. None of the pts developed local recurrence during 14-52 month follow-up period. Five pts have died with lung metastases, 8 are alive with NED. Based on the obtained results, CDP without addition of Adriamycin caused an extensive tumor destruction (>90%) without causing any vascular toxicity. This approach enables a local tumor control without necessitating limb amputation.