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Prognostic factors predictive of survival for retroperitoneal soft-tissue sarcoma in The Netherlands

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Purpose: Surgery is the principle modality of therapy in the management of sarcomas. Retroperitoneally located soft-tissue sarcomas (RSTS) are rare and individual surgical experience is usually limited. This might lead to a defeatist attitude. There are no data available on the outcome in RSTS in the Netherlands. Therefore, prognostic clinical and histopathological factors in survival outcome were identified in patients with RSTS.

Methods: Using a national histopathological database, pathologists and surgeons were sent a questionnaire about all patients in the Netherlands in whom the diagnosis RSTS was confirmed histologically between 1988 and 1993 (n = 136). Data were obtained regarding 57 patients. Median age was 58 years and there were 30 men (53%). In 7 patients the tumour was considered irresectable, 3 patients had recurrent disease and 47 patients were surgically treated for primary RSTS. The prognostic importance of the following variables was evaluated: extent of surgery and the histopathological type and grade. The median follow-up, to July 1996, was 38 months.

Results: Hospital mortality was 7% for operated patients. 1-, 3-, and 5-year overall survival was 80%, 61% and 46% respectively. Median survival after radical tumour resection was 73 months, compared to 14 months after macroscopically irradical resection (p = 0.05) and 5 months in patients treated non-surgically (p = 0.008). The 3 patients who underwent resection of recurrent RSTS were alive 5 years postoperatively. Liposarcomas were associated with a more favourable median survival (85 months,) than fibrosarcomas (45 months, ns) and other histological types (25 months, NS). Low grade sarcoma was a significant prognostic factor when compared to high grade malignancy (p = 0.04).

Conclusion: The major factor in survival outcome after treatment of retroperitoneal soft-tissue sarcoma is the complete resection of the lesion. Surgical efforts should be aimed at a radical resection, defeatism is not justified.

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Surgical management of primary and recurrent soft tissue sarcomas of the retroperitoneum

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The purpose of this study was to identify prognostic factors for survival of soft tissue sarcomas of the retroperitoneum, and to determine the quality of the excision according to their extension to adjacent organs. One hundred seven patients treated for a retroperitoneal sarcoma between 1970 and 1995 were retrospectively reviewed. Univariate log rank analysis was used. Local recurrence rates were calculated after a complete macroscopic excision of the tumor whether an organ was attached to the tumor when resected, or not. Specific recurrence rates were calculated per attached organ types.

Complete excision, and a low histoprognostic grade were the most significant prognostic factors. Resection of attached organ to the tumor has significantly reduced the risk of local recurrence when the organ implicated was the bowel (from 28.2% to 0%), the upper urinary tract (from 45% to 3.7%), and the abdominal wall (from 40% to 14.3%). The resection of an organ attached to the tumor has not reduced the risk of local relapse for organs such as the liver, spleen, pancreas, blood vessels, nerves, and nondigestive pelvic organs. Complete surgical resection rates were the same regardless of tumor size, or whether they were primary or recurrent tumors.

Excision must be complete at initial surgery, and extended to the bowel, the kidney, and the abdominal wall when there is an obvious contact between the tumor and an adjacent organ.

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Recurrent gastrointestinal sarcoma: Survival analyses and patterns of failure

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Purpose: To identify prognostic factors in recurrent gastrointestinal sarcomas (GS).

Method: 60 patients with recurrent GS were identified from a prospective data base of 2865 soft tissue sarcoma admissions to a single institution between 1982–1995. Tumour specific mortality was estimated by the log-rank test and significant univariate ($p < 0.05$) factors subjected to multivariate analysis by Cox's regression.

Results: 23 female and 37 male patients were identified. Median age was 55 yrs. Sites of primary tumour were: 16 gastric, 36 small bowel, 4 colonic and 4 rectal. 48 primary tumors were high grade and 12 low. The median primary tumor and recurrent tumor size was 7 cm. In 15% of patients recurrence was diagnosed by non-symptom directed computed tomography, the remainder were symptomatic.

At a median follow up of 38 months from treatment of the primary and 13 months from recurrence 48 patients were dead of disease, 9 alive with disease and 3 with no evidence of disease. Complete resection (CR) of all visible disease was achieved in 20 and not related to site or size of recurrence, the remainder had partial resection (PR). The interval between treatment of the primary and recurrence (DFI) was a median of 20 months (range 1–164), 14 months for high grade and 65 months for low grade tumors, p = 0.02. By multivariate analysis tumour mortality was significantly related only to DFI, (p = 0.0004).

Conclusion: CR was possible in 1/3 cases but a survival advantage over PR could not be shown. Patients likely to do better following resection of recurrent disease were identified by a longer DFI (>20 months). Tumor biology was the dominant factor in determining survival following recurrence in this group of patients.

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Positron emission tomography (PET) and single photon emission tomography (SPET): Biological characterization of soft-tissue sarcoma. Preliminary results

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Purpose: Little is known about tumor metabolism of soft-tissue sarcomas (STS). In order to investigate sarcoma metabolism, PET with three tracers [F-18-Deoxyglucose (FDG), C-11-Aminoisobutyric acid (AIB) and O-15-Water] and SPET with Tc-99m-Sestamibi were performed in patients with non treated STS. Because of tracer accumulation in viable tumor, the detection of local recurrence, especially in the differentiation against scar tissue, was evaluated.

Methods: 9 patients with STS and 2 patients with a suspected local recurrence in Computed Tomography (CT) or Magnetic Resonance Imaging (MRI), were studied. Liposarcoma was the most common diagnosis (n = 5). Patients with STS underwent surgery and the specimen was histo-pathologically examined. Follow-up was used in the case were PET could not confirm local recurrence.

Results: STS showed an increased uptake of all tracers. Large tumors were characterized by an inhomogenous uptake with enhanced values in the rim and low uptake in central parts. Regions with low uptake were histologically evaluated as necrosis, hemorrhage or cystic tissue. FDG (glucose metabolism) standardized uptake values (SUV) ranged from 2 to 4, 6 with a tumor/muscle (T/M) ratio from 1.9 to 4.2. O-15-Water (tissue perfusion) SUVs ranged from 1.8 to 3.8 with a T/M ratio from 2.3 to 4.4. The AIB-uptake (alanine-like transport of amino acids) varied between 1.5 and 3.3 with a T/M ratio between 0.9 and 1.2. In patients with a suspicious lesion on CT/MRI, but no significant tracer accumulation in PET, no local recurrence was observed.

Conclusion: PET with FDG, AIB and O-15-Water and SPET with Tc-99m-Sestamibi is able to characterize metabolic differences in STS. All tracers accumulated in viable tumor. This method is expected to be helpful in the detection of local recurrence and evaluation of response to chemotherapy.

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Favorable outcome following early treatment intensification with Ifosfamide for high-risk extremity osteosarcoma. Long term results of study COSS-86

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Purpose: To improve the results of osteosarcoma therapy by early systemic treatment intensification. To evaluate the effect of locoregional intensification by giving cisplatinum (DDP) intraarterially (i.a.) as opposed to intravenously (i.v.).

Methods: All patients aged less than 40 years at diagnosis of a localized, de novo high-grade central extremity osteosarcoma registered within