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## Intra-abdominal and retroperitoneal metastases in patients with soft tissue sarcomas - a two-center study

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**Background:** Intra-abdominal and retroperitoneal metastases are rare in patients with soft tissue sarcomas. The objective of this study was to evaluate the incidence of metastatic disease in these locations and to determine the optimal diagnostic approach.

**Methods:** The files of 613 patients with soft tissue sarcomas arising outside the abdominal cavity treated with curative intent between 2000 and 2009 were retrospectively analyzed. Mean follow-up amounted to 58 months (range, 3-148 months) for all patients and 70 months (range, 24-148) for surviving patients who did not develop any metastatic disease. Fisher's exact test was used to compare unrelated samples. Non-parametric analyses were performed with the Mann-Whitney U test. Survival curves were calculated with the Kaplan-Meier method and compared with the log-rank test.

**Results:** 31 patients (5.1%) developed intra-abdominal or retroperitoneal metastases after a mean follow-up of 18 months (range, 1-100 months). 12.8% of patients with myxoid liposarcoma developed intra-abdominal or retroperitoneal metastases, compared to 4.4% of patients with other histologies, a difference which was statistically significant ( $p = 0.025$ ). There were no significant differences in mean tumor size between patients who did and did not develop intra-abdominal or retroperitoneal metastases (9.8 vs. 8.9 cm,  $p = 0.124$ ). The presence of metastases was discovered in routine tests in 26 of the 31 patients, while only 3 patients presented outside routine follow-up with abdominal pain, which led to the diagnosis of metastatic disease. There were no statistically significant differences in post-metastasis survival between patients who developed intra-abdominal or retroperitoneal metastases and patients who developed metastases in other localizations (25% vs. 34% at 5 years,  $p = 0.297$ ).

**Conclusion:** Patients with myxoid liposarcoma appear to have a higher risk for developing intra-abdominal or retroperitoneal metastases, compared to patients with other soft tissue sarcoma subtypes. As metastatic disease in these locations appears to be usually diagnosed in routine follow-up prior to the development of specific symptoms, routine imaging of the abdominal cavity of patients with myxoid liposarcoma during follow-up seems to be justified.

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