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Title: Prognostic factors predictive of survival in advanced synovial sarcoma

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Abstract

Background: Prognostic factors predictive of survival in localized synovial sarcoma are relatively well documented. However, prognostic factors of advanced synovial sarcoma have not yet been fully established.

Questions/purposes: The purpose of this study was to analyze (1) survival of patients with advanced synovial sarcoma and to determine (2) its prognostic factors.

Materials and Methods: A retrospective review was conducted on 69 patients with advanced synovial sarcoma. The study population consisted of 42 men and 27 women, with a mean age of 40 years (range: 19–83 years). The median follow-up period after development of advanced disease was 18 months (range: 2–361 months). Advanced synovial sarcomas consisted of metastasis at diagnosis (17), metachronous metastasis (36), local recurrence (10), and metastasis with local recurrence (6). Lung was the most common site of metastasis, accounting 49 of 59 metastases (83%). Complete surgical removal of the advanced disease was performed in 31 patients (45%).

Results: The median survival time was 36 months after development of advanced disease, and five-year and ten-year overall survival rates were 39% and 32%, respectively (Fig. 1). After univariate analysis, favorable prognostic factors for survival were small primary tumor ($P<0.001$), complete surgical removal of metastasis or recurrence ($P=0.001$), single recurrence or metastasis lesion ($P=0.004$), local recurrence only ($P=0.03$), and longer duration from the primary tumor excision ($P=0.034$) (Table 1). Among them, small primary tumor and complete surgical removal retained prognostic significance after multivariate analysis ($P=0.021$ and $P=0.018$, respectively).

Conclusions: We have detailed our experience with advanced synovial sarcoma. The current study suggests that small primary tumors and complete surgical removal of advanced disease are important prognostic factors in advanced synovial sarcoma.

Key word: synovial sarcoma, metastasis, local recurrence, survival, prognostic factors

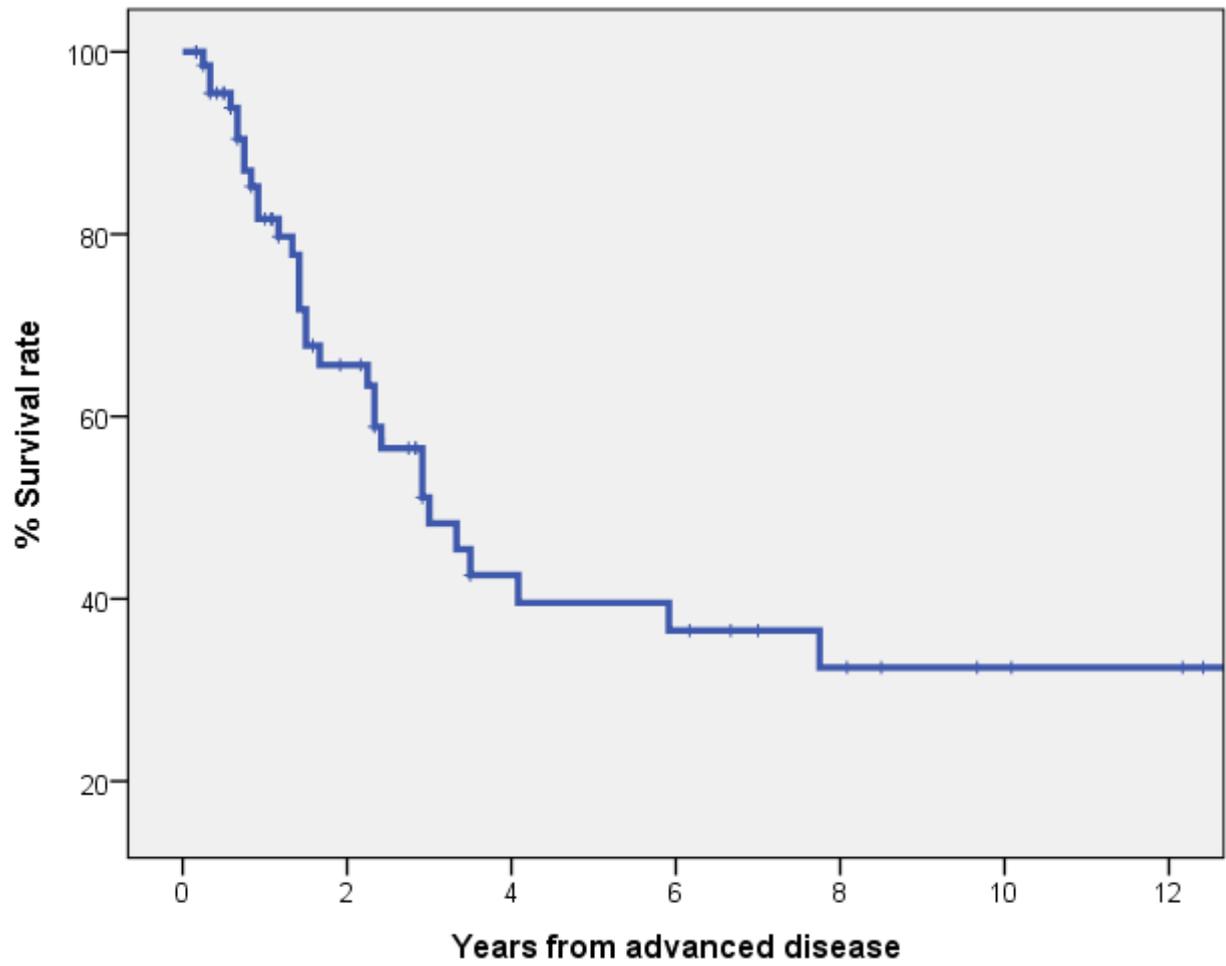


Figure 1. Kaplan-Meier curve of survival following development of advanced synovial sarcoma. The median survival for all patients was 36 months. The 5-year and 10-year survival rates were 39% and 32% respectively.

Table 1. Prognostic factors associated with survival following development of advanced disease.

| | Univariate analysis | Multivariate analysis | |
|---|---------------------|-----------------------|------------------|
| | <i>P</i> - value | HR (95% CI) | <i>P</i> - value |
| Primary tumor size | <0.001* | | 0.021* |
| < 6.5 cm | | 1 (Ref.) | |
| ≥ 6.5 cm | | 3.323 (1.198-9.221) | |
| Surgical remission for advanced lesion | 0.001* | | 0.018* |
| Yes | | 1 (Ref.) | |
| No | | 3.310 (1.232-8.891) | |
| Number of advanced lesion | 0.004* | | 0.479 |
| Single | | 1 (Ref.) | |
| Multiple | | 1.708 (0.387-7.537) | |
| Type of advanced disease | 0.03* | | 0.729 |
| Local recurrence only | | 1 (Ref.) | |
| Others | | 1.504 (0.149-15.136) | |
| Interval from primary tumor surgery | 0.034* | | 0.562 |
| >12 months | | 1 (Ref.) | |
| ≤12 months | | 1.352 (0.483-3.786) | |

*: statistically significant value

HR: hazard ratio

CI: confidence interval

Ref.: reference