

Prognostic Factors in Uterine Sarcomas: A Clinicopathologic and Immunohistochemical Study

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ABSTRACT Background: Uterine sarcomas are rare malignant tumors histologically categorized into high-grade and low-grade sarcomas (HGS & LGS).

Objective: To examine the prognostic relevance of clinicopathological and immunohistochemical features for this rare group of tumors.

Methods: Clinicopathological data including age, follow-up, parity, tumor cell type, lymphovascular invasion, nuclear grade, stage and mitotic index was obtained for 28 cases treated at our institute. HGS (n=22) included 11 each of leiomyosarcoma (LMS), and carcinosarcoma (CS). LGS (n=6) included 3 each of Müllerien adenosarcoma (MAS) and endometrial stromal sarcoma (ESS). Sections were immunostained with antibodies for p53, Bcl-2, ER, HER-2 and c-Kit. The data was statistically analyzed for association between these factors and disease-free survival.

Results: Twelve (42.9%) patients with HGS died of the disease and none died among LGS. Descriptive analysis revealed a statistically significant association between death and HGS ($p=0.024$), sarcomas with nuclear grade 3 ($p=0.029$), mitotic index > 60 ($p=0.016$) and presence of lymphovascular invasion ($p=0.028$). More than 80% of the patients with recurrence were diagnosed with HGS. Median overall survival time was 70 months. The 2-, 5- and 10-year survival rates were 65%, 58% and 43% respectively. No statistically significant association was observed between survival times and histologic types of sarcoma ($p=0.204$) but stage 1 and 2 had a better survival compared to stage 3 and 4. Over expression of P53 was only found in 4 cases of CS; and complete membranous staining for Her-2 was also only observed in CS tumors (n=6). ER positive staining was found in all MAS and ESS tumors only. C-kit positive expression was observed in 8 cases, 7 of which were from HGS group.