PS4-08-17: Evaluation of Clinicopathological Features and Prognoses of Female Breast Sarcoma Patients

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Background

Background: Primary breast sarcomas are extremely rare malignant tumors that account for less than 1% of all breast malignancies. These tumors differ significantly from common breast carcinomas in terms of histogenesis, clinical behavior, and treatment approaches. Due to their low incidence, comprehensive data on clinicopathological characteristics and prognostic factors in female patients are limited. In this study, we evaluated the characteristics and prognostic features of female breast sarcoma patients.

Methods and Materials

Data for this study were obtained from the Surveillance, Epidemiology, and End Results (SEER) database, including female patients diagnosed with primary breast sarcoma, between 2000 and 2021. Demographic, clinicopathological, and survival data were analyzed to identify prognostic factors. Survival outcomes were evaluated using Kaplan-Meier analysis and multivariate Cox regression models.

Results

A total of 4389 female breast sarcoma patients were identified from the database. A total of 2613 (59.5%) patients were under the age of 60. The five most common sarcoma types were malignant phyllodes tumor (58.4%), hemangiosarcoma (16.3%), carcinosarcoma (6.2%), sarcoma not otherwise specified (NOS) (3.7%), and spindle cell sarcoma (2.3%), respectively. The disease stages at diagnosis were localized (80.3%), regional (15.2%), and metastatic (4.5%), respectively. Surgical breast surgery was performed in 95.1% of the patients, 23.5% of patients received radiotherapy, and 14.9% of patients received chemotherapy. The 3-year, 5-year, and 10-year cancer-free survival rates were 82.3%, 79.1%, and 76.7%, respectively. The factors affecting prognosis were evaluated and in univariate analysis; age at diagnosis ($p<0.001$), race ($p=0.021$), origin ($p<0.001$), tumor side ($p=0.590$), sarcoma type ($p<0.001$), disease stage ($p<0.001$), surgery ($p<0.001$), radiotherapy ($p=0.003$) and chemotherapy ($p<0.001$) were determined. In multivariate analysis, age ($p < 0.001$), stage at diagnosis ($p < 0.001$), sarcoma type ($p < 0.001$), and surgery ($p < 0.001$) were identified as prognostic factors in breast sarcoma patients.

Table 1. Baseline Characteristics of the population

Characteristic	n	%
Age group (years)		
<60	2613	59.5%
≥60	1776	40.5%
Race		
White	3267	74.4%
Asian or Pacific Islander	527	12.0%
Black	511	11.6%
Other	84	1.9%
Histological subtype		
Phyllodes tumor, malignant	2564	58.4%
Hemangiosarcoma	715	16.3%
Carcinosarcoma, NOS	274	6.2%
Spindle Cell Sarcoma	102	2.3%
Others	359	8.2%
Stage at diagnosis		
Localized	2734	62.3%
Regional	518	1.8%
Metastatic	153	3.5%
Surgery		
Yes	4153	94.6%
No	212	4.8%
Radiotherapy		
Yes	1032	23.5%
No/Unknown	3357	76.5%
Chemotherapy		
Yes	652	14.9%
No/Unknown	3737	85.1%

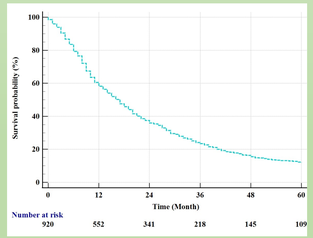


Figure 1. General survival outcomes in females with breast sarcoma

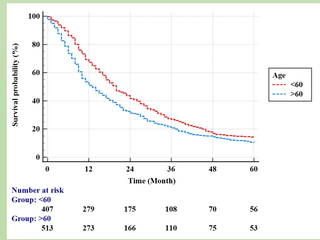


Figure 2. Impact of age on survival in female breast sarcoma patients

Conclusion

Breast sarcomas are quite rare in women. According to the results of this study, cancer-specific deaths generally occur within the first 3 years. Age at diagnosis, sarcoma type, initial stage, and surgical treatment were determined as prognostic factors in breast sarcoma patients.

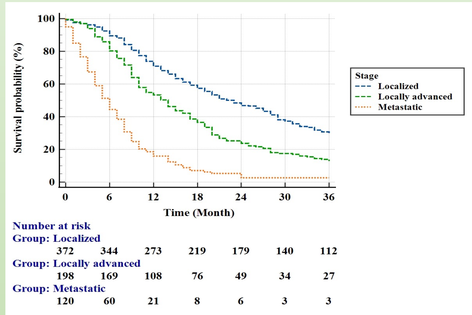


Figure 3. Stage-specific survival among females with breast sarcoma

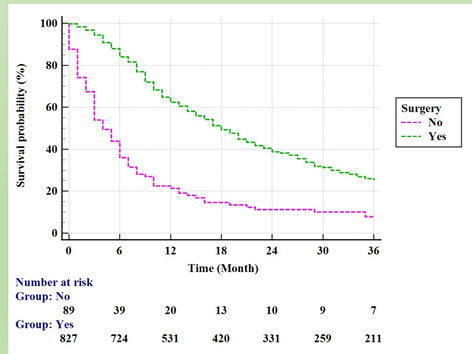


Figure 4. Survival analysis of breast sarcoma in the female population undergoing surgery

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