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Cardiac Synovial Sarcoma: Retrospective Review of the SEER Database

INTRODUCTION: Cardiac synovial sarcoma (CSS) is a rare primary cardiac tumor of epithelial and mesenchymal origin. It is often detected at advanced stages, definitive diagnosis is challenging, and the literature is limited. As such, clinical characteristics and epidemiologic patterns remain poorly understood. This review aims to describe the demographic, pathological, therapeutic, and outcome data for 17 cardiac synovial sarcoma cases reported in the Surveillance, Epidemiology, and End Results(SEER) database of the National Cancer Institute.

METHODS: The SEER database was queried for all patients with synovial sarcoma of primary cardiac origin using ICD-O-3 codes for synovial sarcoma (9040/3, 9041/3, 9042/3, and 9043/3). Data were extracted for 17 confirmed cases and statistical analysis was performed in Microsoft Excel. For survival analysis, all cases classified as recurrent or as stages 3 and 4 by AJCC criteria were considered dead from synovial sarcoma.

RESULTS: CSS was more common in male patients (82.4%). Median age at diagnosis was 52 years, and median tumor size was 80mm. Seven of the cases (41.2%) remained localized, while six (35.3%) had regional tissue invasion, and four (23.5%) had spread to distant sites. Histologically, four cases (23.5%) were monophasic and two (11.8%) were biphasic. 13 of the 17 patients (76.5%) underwent surgical excision. Chemotherapy was administered to nine patients (52.9%) and two patients (11.8%) received radiotherapy. Eight of the 13 patients (61.5%) whose deaths were attributed to CSS passed within 1 year of diagnosis with median survival time of 11 months (range=0-40 months).

DISCUSSION: A clear male predominance was identified for CSS cases in the SEER database. The majority of the cases presented at advanced stages involving regional or distant spread. Surgical excision was favored among available treatment options. Prognosis was poor with more than half of the cancer-related deaths occurring within 1 year of diagnosis.