Outcomes and Prognostic Factors in Histiocytic Sarcoma: A Population-Based Study Using SEER Data

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Introduction

•Histiocytic sarcoma (HS) is an aggressive and extremely rare hematologic malignancy.
•Due to its low incidence, literature is limited, and treatment strategies are not well defined.
•We aimed to characterize clinical features, treatments, and survival outcomes using a large national dataset.

Aim

To describe the clinical characteristics, treatment patterns, and survival outcomes of patients with histiocytic sarcoma using a population-based dataset, and to identify prognostic factors associated with overall and cancer-specific survival.

Objectives

•Describe the demographic and clinical characteristics of patients with HS.
•Evaluate the impact of treatment modalities (surgery, chemotherapy, radiation) on survival.
•Identify prognostic factors for overall and cancer-specific survival.

Methods

•Retrospective cohort study using SEER 18 registries (2000–2021).
•Included adult patients (≥18 years) with histiocytic sarcoma (ICD-O-3: 9755/3).
•Variables: age, sex, race, origin, primary site, treatment, survival.
•Outcomes: overall survival (OS) and cause-specific survival (CSS).
•Kaplan-Meier method and Cox regression models were used.

Results

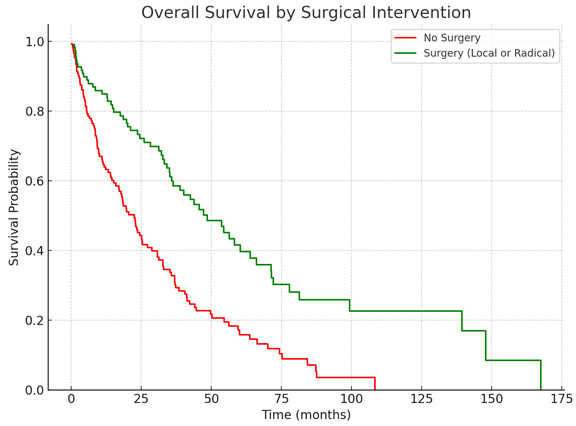
Key Characteristics
•N = 267; median age: 59, 53% male.
•Most common primary sites: nodal (40%), extranodal (25%), soft tissue (18%).
•Chemotherapy used in 43%, radiation in 25%, and surgery in 42%.
•Median survival: 34 months; 5-year survival probability ~30%.

Results

Survival Analysis
Log-rank test: No significant difference in survival by primary site (p = 0.48).

Multivariable Cox (OS):
•Age: HR 1.02 per year, p<0.001
•Surgery associated with improved OS:
•Local excision: HR 0.41, p<0.001
•Radical surgery: HR 0.51, p=0.018
•Chemotherapy and radiation were not statistically significant.

Multivariable Cox (CSS):
•Surgery remained protective.
•Soft tissue site showed a trend toward improved CSS (p = 0.056).



Summary

•HS carries a poor prognosis with limited benefit from systemic therapy.
•Surgical intervention significantly improves survival and should be prioritized in localized disease.
•Findings support the need for clinical trials targeting histiocytic/dendritic malignancies.

Discussion

•Surgical resection offers the only clear survival benefit, emphasizing the need for early detection and operability.
•The absence of benefit from systemic therapy highlights an urgent need for targeted treatment strategies in HS.

References

Yin P. Hung, Xiaohua Qian; Histiocytic Sarcoma. *Arch Pathol Lab Med* 1 May 2020; 144 (5): 650–654. doi: https://doi.org/10.5858/arpa.2018-0349-RS

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