Skeletal versus Extraskeletal Ewings Sarcoma: Treatment strategies to Oncological outcomes: Are they comparable or divergent

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Background: Ewing sarcoma can arise in either bone or soft tissue. Available literature on the oncological outcomes between the skeletal and extraskeletal Ewings sarcoma is sparse.

Purpose: The objective of this study was to evaluate whether patient characteristics, treatment strategies, and outcomes differ between skeletal Ewing sarcoma and extraskeletal Ewing sarcoma.

Materials and methods: Retrospective analysis of prospectively maintained Ewings sarcoma database identified 108 patients with non metastatic Ewings sarcoma treated with multimodality approach between 2002 and 2013. There were 69 (64%) with skeletal Ewings (SES) and 39 (36%) with extraskeletal Ewings sarcoma (EES). The clinical features, Distribution pattern, treatment outcomes of both cohorts are analysed.

Results: Patients with EES had a higher median age (24 vs 14 years) and were less likely to be male (56% vs 83%) compared with patients of skeletal tumors. 18 (55%) cases of EES had a tumor size less than 5cms while 59 (86%) cases of SES had tumor more than 8cms. Lower extremity was the most common site of involvement in both cohorts. Nearly all patients received long-term multi-agent chemotherapy, interrupted by individualised local treatment consisting of surgery and adjuvant radiotherapy as per case merit. After a median follow up of 36 months 3-year Disease free survival was superior for EES compared with SES (87% vs 55%; P = .008), 3-year overall survival was not statically significant between cohorts, however there was a trend towards improved survival among EES (83% vs 70%; p= 0.145)

Conclusions: Clinical features and treatment outcomes differ among patients with EES compared with patients with skeletal Ewing sarcoma. These findings have important implications on Multidisciplinary care.