

Demographic Profile of Ewing's Sarcoma from a Tertiary Care Centre in a Developing Country- Retrospective Data from last Ten Years

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Aims & Objectives:

It is well known that incidence pattern of Ewing's sarcoma exhibits racial differences. However, most of these reports are from developed nations. The demographic profile of Ewing's sarcoma in developing countries is unclear. Our aim is to present the demographic characteristics of patients with Ewing's sarcoma of bone and soft tissue presenting to a tertiary care centre in India.

Methods:

A retrospective study was conducted to extract the demographic characteristics of patients with Ewing's sarcoma/ PNET group of tumors treated at our institute between 2004 and 2014. Demographic data including age at presentation, gender, site of involvement and metastasis at presentation were collected. Patients who underwent surgical treatment following neo-adjuvant chemotherapy were grouped and the type of surgery was noted.

Results:

Between 2004 and 2014, a total of 405 cases of biopsy proven Ewing's sarcoma were identified from the hospital records. The average age at presentation was 15.3 years. The male-female ratio was 2.2: 1. 44.8% of the patients in our data were in the age group of 15 to 24 years with just 17 patients (4.3%) aged 35 years or more. Sixty six patients (16.3%) were found to have metastasis at presentation. Data on primary site of involvement was not available for 59 patients and 2 patients had unknown primary. Among the remaining 346 patients, the most frequent site of origin for the Ewing's sarcoma was femur (15.6%), followed by pelvis (14.8%) and chest wall (12.4%). In a total of 155 patients (44.8%) the tumor was arising from the appendicular skeleton including scapula and clavicle. After neo-adjuvant chemotherapy, 48 patients underwent surgical treatment. Limb salvage surgery was performed in 38

patients while 10 patients underwent either amputation or disarticulation. Tumor excision alone was performed in 13 patients, reconstruction using fibular graft was done in 15 patients and reconstruction using irradiated bone was done in 4. Five patients had an endoprosthesis reconstruction after resection whereas clavicular rotationplasty was done in one patient.

Conclusions:

Our study has the limitation of being a hospital based, retrospective data. In the absence of population based data, intermediate term experience of a tertiary care centre from the second largest country throws some light on the epidemiology of Ewing's sarcoma in the developing world. The number of patients undergoing surgical treatment is from the total pool of patients is low (11.9%) as compared to the Western world. Poor socio-economic conditions and lack of resources at the nodal hospital are the primary causes for this poor surgical outcome in our study. This data can help in identifying the need of infrastructure and human resources. We use it as a nucleus to generate clinical and basic research questions. Further, such an attempt can act as a stimulus for creation of a national registry for bone and soft tissue tumors, which is yet in its incipient stages in a developing country like ours.