CHAPTER 46

PRIMARY CHEST WALL TUMORS

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Chest wall tumors present a heterogeneous spectrum of diseases from primary benign or malignant tumors to metastases; local extension of adjacent tumors of the lung, mediastinum, pleura or breast; non-neoplastic infectious or inflammatory conditions; or even local manifestations of systemic disease [1]. They are more commonly either metastases or local invasion of a neighbouring organ tumor.

Primary chest wall tumors account for only 0.04% of all new cancers diagnosed and 5% of all thoracic neoplasms [2]. Primary chest wall tumors are best classified according to their tissue of origin, bone or soft tissue, and further sub-classified according to whether or not they are benign or malignant (Table 1). Most of these tumors are uncommon, with information garnered from individual case reports or institutional case series [1].

The most common malignant tumors include soft tissue sarcomas, chondrosarcomas, and Ewing sarcoma. The most common benign tumors include osteochondromas, chondromas, fibrous dysplasia, and desmoids tumors. Approximately 50% to 80% of chest wall tumors are malignant. Of these malignant tumors, approximately 55% arise from bone or cartilage and 45% from soft tissue. [3]

The average age of the patient at presentation for benign tumors is 26 years and for malignant tumors is 40 years. The male-to-female ratio is approximately 2:1 for most tumors except for desmoid tumors where it is 1:2 male-to-female preponderance [4,5].

Because of their rarity and often benign presentation, chest wall tumors can present both a diagnostic and therapeutic challenge.

CLINICAL PRESENTATION

Patients commonly present with pain and/or mass. However, more than 20% of chest wall tumors are found incidentally on radiological examinations.[6]

Approximately two-thirds of benign tumors will become painful, and nearly all malignant tumors will eventually cause pain, which can be a result of periosteal or neural invasion. Also, muscle weakness and atrophy of their upper extremities from compression of a tumor on the brachial plexus could be observed.[3]

Systemic symptoms of fever, malaise, fatigue, weight loss, infection or metastasis, are also seen in eosinophilic granuloma and Ewing sarcoma. Due to the rarity of chest wall tumors, the time between onset of symptoms and diagnosis is often long [7]. Although they are not pathognomonic, rapid increase in tumor size, involvement of surrounding tissues, and cortical destruction may suggest malignancy. Pain or fixation is not reliable predictors of malignancy.

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