

Costal Exostosis in the Adult: A Case of Report

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Abstract

A 34 year old male presented with a painful, rapidly enlarging chest wall mass. A malignant chest wall neoplasm was suspected. X ray and thorax CT scan showed sixth and seventh internal ribs exostosis. Exostosis were resected the sixth and seventh ribs with thoracotomy. The pathological findings of those bony lesion proved to be consistent with osteochondroma.

Keywords: Hereditary multiple exostoses, costal exostoses, osteochondroma

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INTRODUCTION

Neoplasms of anterior and posterior chest wall present diagnostic and therapeutic problems, which are often unique to the region body. Primary neoplasm of the chest wall are 5% and 10%, neoplasm of ribs being far more common than those of sternum. Benign cartilagenous tumors found in thorax include osteochondroma, chondroma, chondromyxoid fibroma and chondroblastomas. Osteochondromas are neoplasms of young adults. Osteochondromas that can cause pain, deformity and potential malignant degeneration. The neoplasm begins in childhood and continues to grow until skeletal maturity is reached. Osteochondromas arise from the metaphyseal region of the rib and present as a stalked bony protuberance with a cartilagenous cap also varies [1]. Patients with multiple exostosis have a slight risk of malign transformation of the cartilagenous portion of the exostosis.

CASE

A 32 year old male with a painful, rapidly enlarging chest wall mass. Chest X ray showed mass arising from the sixth and seventh rib in the left lung field (figure 1). A malignant chest wall neoplasm was suspected. A Computerised Tomography (CT) scan was performed which showed a mass extending from exterior to interior surface of the left sixth and seventh rib (figure 2). Other deformities were observed in the left forearm, right fore-

arm, in the knees, in the scapulas. Family history revealed multiple exostoses in his father and one of his brother. He had undergone operation on multiple exostoses in the scapulas and right fifth rib. Upon operation, I found hard mass the size of a pea protruding from the sixth and seventh rib to pleura. The mass was resected with a normal portion of the sixth and seventh ribs. Histopathologic diagnosis was reported osteochondroma.

DISCUSSION

When the lesion is seen only in a single bone it is called solitary osteocartilagenous exostosis or osteochondromas. When two or three exostosis are encountered and there is no history of familial or hereditary background they are referred to as multiple exostosis or osteochondromas. When the tumors are distributed over the skeleton there is usually a familial history and they are designated as hereditary multiple exostosis. The individual lesions of solitary and multiple exostosis are basically identical roentgenologically and pathologically [2]. Hereditary multiple exostosis is an autosomal dominant disorder manifested by the presence of multiple osteochondromas. Linkage analysis has identified mutations in the EXT gene family, resulting in an error in the regulation of normal chondrocyte proliferation and maturation that leads to abnormal bone growth. Although exostoses are benign lesions, they have a slight risk of sarcomatous transformation of the cartilagenous portion of the exostosis [3].

Rarely costal exostosis may cause some complications such as hemothorax, diaphragmatic, pericardiac wounds reported by authors [4,5]. In case of symptomatic exostosis, the authors recommend a surgical removal to avoid severe complications. If the exostosis is asymptomatic abstention can be recommended. We conclude that, albeit rare, hereditary multiple exostosis or solitary costal exostosis should be entertained in patients presenting non-traumatic, painful, rapidly enlarging chest wall mass.

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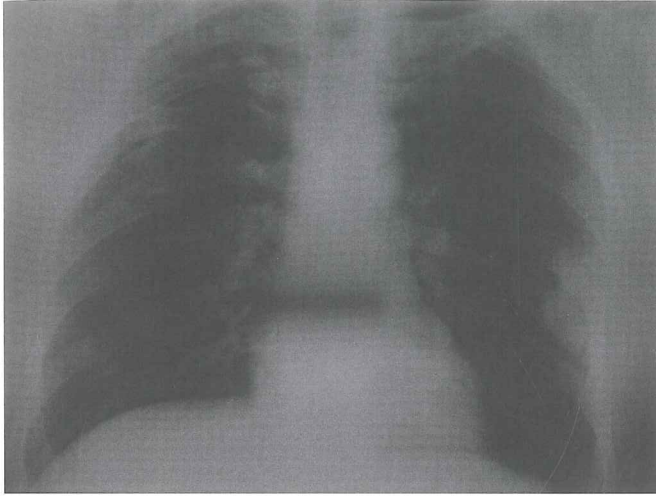


Figure 1. X ray showing exostosis in the sixth and seventh ribs.

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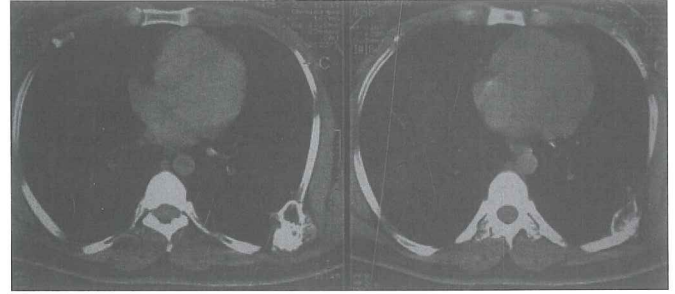


Figure 2. Thorax computerised tomography showing internal chest wall mass.