CASE REPORTS

Sternal chondrosarcoma

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Sternal neoplasms are extremely rare. It is difficult to make prospective evaluations due to the lack of consistent reports in the literature. The authors report the case of a woman in her seventies, who presented a chondrosarcoma of the sternum, treated by them. *(**J Pneumol** 2003;29(1):43-4)*

Key words – Chondrosarcoma. Sternum.

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INTRODUCTION

Soft tissue sarcomas are mesenchymal-derived tumors, including muscles, endothelium, cartilage and sustaining components, excluding the reticuloendothelial system and blood elements. The incidence of malignant sarcomas is low, 1.5 per 100,000 habitants, or approximately 8,000 new cases per year in the United States[(1)]. Primary malignant tumors of the thoracic wall correspond to less than 1% of all neoplasias and encompass a great variety of bone lesions and soft tissues. Chondrosarcomas represent 20% of the primary tumors of the thoracic wall, being 80% from the ribs and 20% of the sternum[(2)].

CASE REPORT

Seventy-seven year old, Caucasian female, farmer, born in Amaral Ferrador, State of RS, Brazil, coming from Encruzilhada do Sul, was hospitalized in the Thoracic Surgery Service of Hospital Nossa Senhora da Conceição exhibiting a large mass protruding from the sternal area. She reported that the lesion appeared three years ago, without local pain or bleeding. She denied loosing weight and only complained of occasional and mild dyspnea. She mentioned she had been operated from a small lesion in the same place eight years earlier.

The patient denied smoking and alcoholism. At the previous pathological history, she mentioned systemic blood hypertension well controlled with medication, without other illnesses. Physical examination was normal, except for the mass in the sternal area.

A thorax computerized tomography was then performed, which evidenced a large expansive solid insufflating lesion, extending from approximately 3.0 cm caudal to sternal manubrium until the xiphoid appendix area, with density of soft parts and discrete contrast impregnation in the initial phase. The lesion invaded the anterior thoracic wall and the anterior mediastinum, displacing mediastinal structures postero-laterally to the left.

Skeleton scintigraphy demonstrated a tracer hyperfixating area in the sternum, without other abnormal skeletal areas. After imaging exams, an incisional biopsy was performed, whose anatomopathologic result was a well-distinct cartilage neoplasia, possible chondrosarcoma.

The patient was submitted to a sternotomy and thoracectomy, with placement of Marlex and metylmethacrylate mesh for stabilization of the thoracic wall. A myocutaneous slice was made with right rectoabdominal muscle to close the defect on the thoracic wall. The definitive post-operative anatomopathologic result was a well distinct level I sternum chondrosarcoma.

Figure 1 – Thorax CT.

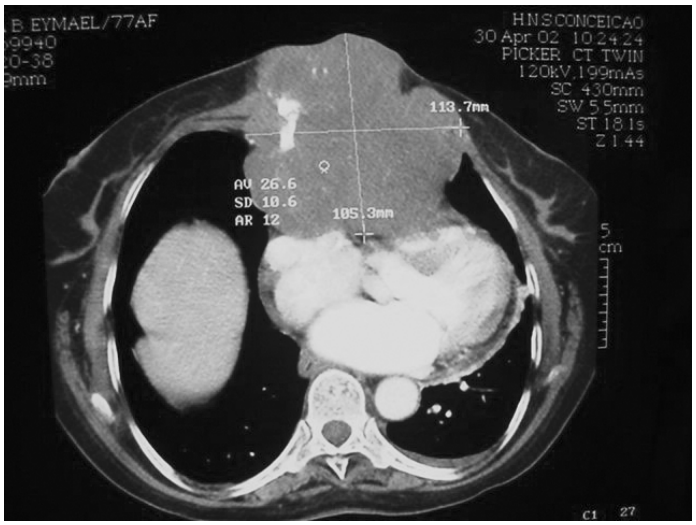


Figure 2 – Resection of the lesion in block with the thoracic wall.

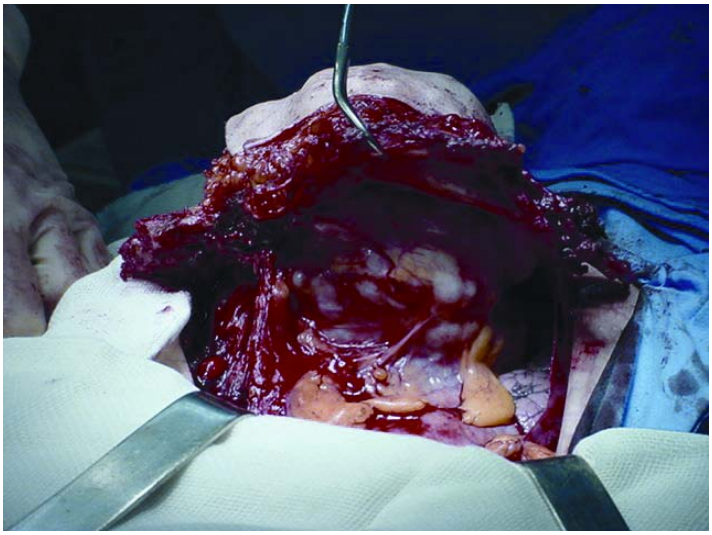
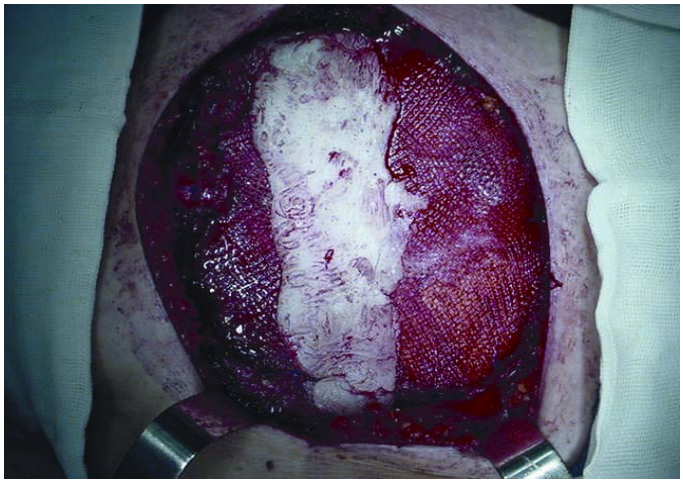


Figure 3 – Reconstruction with Marlex mesh.



DISCUSSION

Chondrosarcomas represent approximately 30% of primary malignant bone neoplasias, being the most frequent that of the anterior thoracic wall. This tumor occurs more often between the third and fourth decade of life, being relatively uncommon in people younger than 20 years of age. The males are more affected [3].

Chondrosarcomas are lobulated neoplasias that may grow to massive proportion and, consequently, may extend internally to the pleural space, or externally, invading muscle and adipose tissue of the thoracic wall. Microscopically, the findings vary from normal cartilage to obvious malignant modifications. The differentiation between chondroma and chondrosarcoma can be extremely difficult [3]. Palpable mass in thorax is the main symptom in approximately 80% of the patients with thoracic wall tumor. Of these, 60% present associated pain [2]. Respiratory failure and hemothorax are rare, and are present only in very large tumors [4].

Imaging exams may be useful to indicate the pathology; however, the definitive diagnostic requires a correlation between histology and radiology. Computerized tomography (CT) and magnetic resonance (MR) are good exams to characterize the tumor and its extension. CT is superior to MR to demonstrate calcifications, whereas MR is the choice to evaluate the tumor's extension and its relationships with adjacent structures [4].

Thoracic wall chondrosarcomas typically grow slowly and relapse locally. If not treated, late metastasis will occur. Complete control of the primary neoplasia is the main determinant of survival. The purpose of the first surgery must be a wide resection, enough to prevent local recurrence. This means obtaining a 4 cm margin in all sides. This conduct results in cure for most patients, resulting in a 10-year survival in 97% [3]. Some authors propose that, since the pre-operative histological is difficult, the wide resection must be done in all cases of thoracic wall neoplasia [5].

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