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Case Report

Giant bone tumor of the chest wall Wide resection and repair in one step

Authors:
MESKOURI KARIM[1], A. CHERBAL1, R. NEMMAR[2], E. KERBOUA[3], A. KHELILI[1], Mr. CHERIET[1]

[1]*Professor head of department of Thoracic and Cardiovascular Surgery and Organ Transplantation MUSTAPHA University Hospital. Alger. ALGERIA. Faculty of Medicine of Algiers. Algiers University 1*
[2]*Assistant Physician in the Thoracic and Cardiovascular Surgery and Organ Transplantation Department at MUSTAPHA University Hospital. Alger. ALGERIA.*
[3]*Professor of Orthopedic Surgery and Traumatology CHU MUSTAPHA. Alger. ALGERIA.*
Professor in Medicine Oncology Piere Marie Curi Center. Algiers Algeria

Corresponding Author:
MESKOURI KARIM
Professor head of department of Thoracic and Cardiovascular Surgery and Organ Transplantation MUSTAPHA University Hospital. Alger. ALGERIA. Faculty of Medicine of Algiers. Algiers University 1

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ABSTRACT:
A chondrosarcoma is a malignant tumor of the cartilage. This rare cancer still represents 20% of primary bone tumors. Although it can affect anyone, it is more often found in adults, Primary involvement of the chest wall is rare. We report the observation of a patient admitted to the emergency room for a painful giant historic parietal mass abscessed on a neglected surface; the radiological assessment showed also endothoracic development of this tumor. The pathological analysis of the biopsy of the mass concluded that it was a chondrosarcoma, the patient benefiting from a wide resection of the tumor with parietal repair, followed up at one year without recurrence. Through this observation, we emphasize the rarity of the location, the histological characteristics, the therapeutic approach, and despite wide surgical resection the prognosis of these tumors remains poor.

Keywords: Chondrosarcoma, chest wall, large surgery, repair

INTRODUCTION:

Chest wall tumors in their primary or secondary forms are a heterogeneous group of lesions that pose a problem for diagnostic and therapeutic management on a global scale. Tumors of the thoracic bone wall are rare, accounting for less than 5% of all bone tumors (1). They are most often located on the ribs (11 to 16%) and the scapula, more rarely on the sternum or clavicle. Cartilaginous tumors are the most common benign tumors, dominated by osteochondroma and chondroma. These benign tumors are distinguished by their often asymptomatic nature and respect for the cortex. The most common malignant bone tumors of the chest wall are metastases and myeloma locations. (1) Primary tumors, which are rarer, are essentially represented by chondrosarcoma (primary or secondary to degeneration of a chondroma or osteochondroma). These malignant tumors are seen mainly in adults between 40 and 70 years of age and are defined by their symptomatic character, unclear boundaries, destruction with interruption of the cortex and often extension into the soft tissues. Many lesions are discovered incidentally on a chest x-ray and pose few diagnostic problems. However, the semiological analysis can sometimes be difficult and justify the performance of a CT scan. Magnetic resonance imaging is much more rarely performed, except in cases of diagnostic doubt and extension assessment when a biopsy or surgical excision is indicated. (2) The diagnosis of costal chondrosarcoma can sometimes be difficult in imaging and histology. Their management is surgical. Wide excision is the only curative treatment even in high-grade chondrosarcomas.

CASE PRESENTATION:

Mr. IA is 41 years old, without any notable pathological history, hospitalized as part of the emergency in the department for a giant infected and abscessed thoracic parietal mass, which has been present for more than 15 years. The Patient describes the spontaneous appearance of a small basithoracic mass lateralized to the left, initially non-painful, hard and very slowly evolving. This lesion, neglected by the patient, gradually increased in size and became very painful with a superficial infection, which led the patient to consult us. Clinical examination on admission: patient in average general condition with a

fixed, hard, polylobed left lateral basithoracic mass with skin infection and the beginning of superficial necrosis. (figure 1)

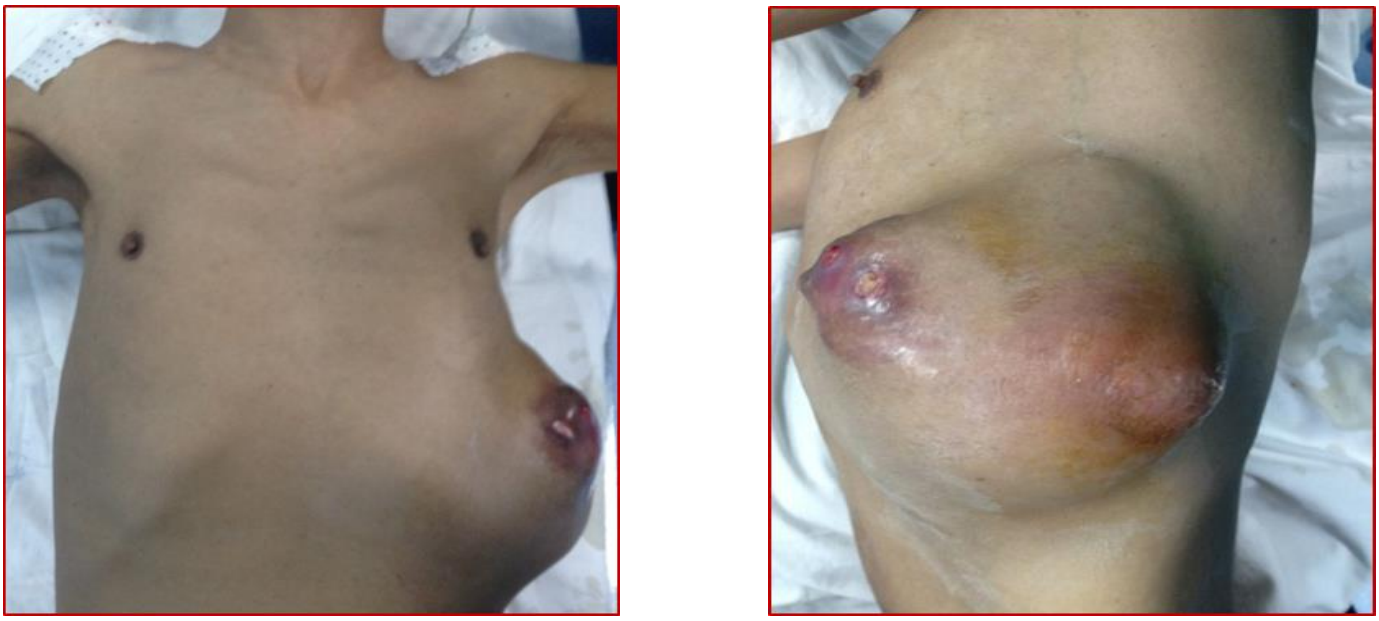

figure 1 Initial examination of the patient (Giant thoracic tumor)

The frontal chest X-ray showed a strongly calcified mass with an irregular invasive border and in contact with the soft tissues (figure 2).

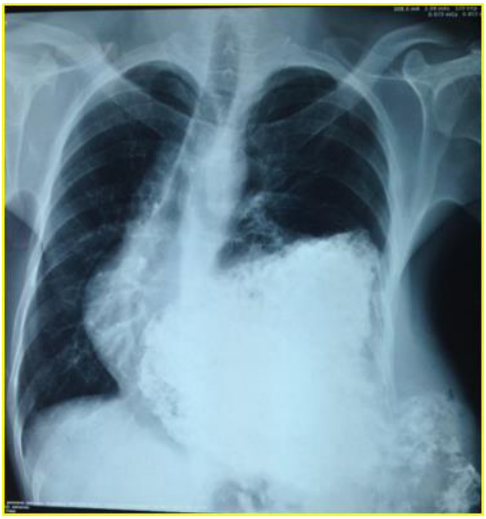

figure 2 TLT from the front: Giant calcified mass left thoracic base

Chest CT scan confirmed the presence of a voluminous expansive process originating from the middle arch of the 8th left side and developing intra and extra thoracically, occupying the lower half of the left hemithorax, well limited to polylobed contours, however, there is a capsular rupture in one place (mediastinal) this mass represses the pulmonary parenchyma and encompasses the descending aorta over more than 180° of its circumference. The extra-thoracic component shows signs of superinfection with a necrotic component. This tumor mass presents an endothoracic extension (figure 3).

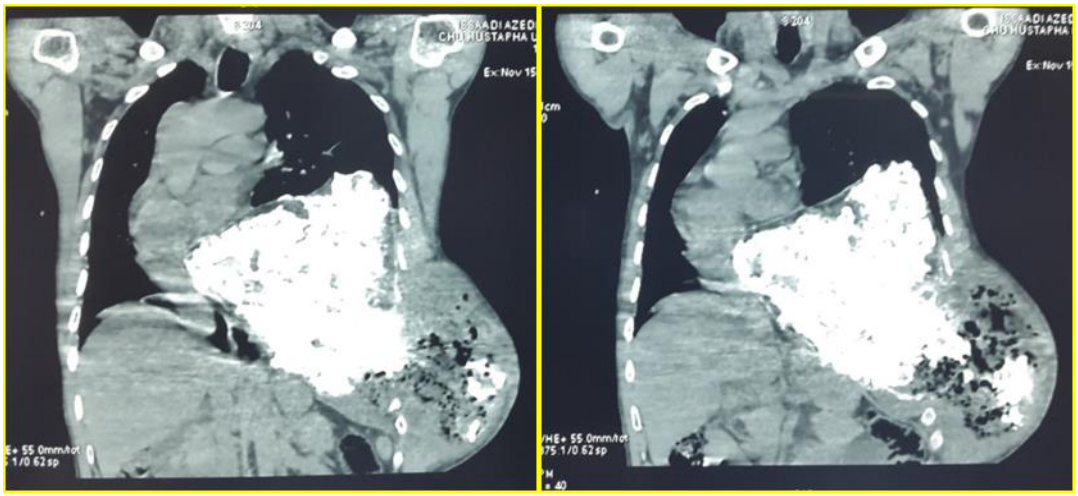

Figure 3 Thoracic CT: Expansive Process of the 8th left side

A biopsy of the mass revealed a lesion strongly suggestive of a chondrosarcoma. Surgical intervention was proposed, or a direct approach to the mass was carried out. Orange quarter incision removing skin necrosis and infection. Resection of the anterolateral arch of the 7th and 8th side. Progressive excision of the entire mass en bloc while respecting the elements of the mediastinum and the lung, this mass is largely hard and bissac-shaped whose communication orifice is located at the height of the junction of the middle and anterior arch of the 7th rib and the 7th intercostal space, the endothoracic limits of the tumor are imprecise and it is located at the base of the lower lobe which it infiltrates on the surface (visceral pleura) at the same time in contact with the diaphragm. The excision of the tumor was carried out in one piece using an extrapleural plane for its detachment. (figure 4).

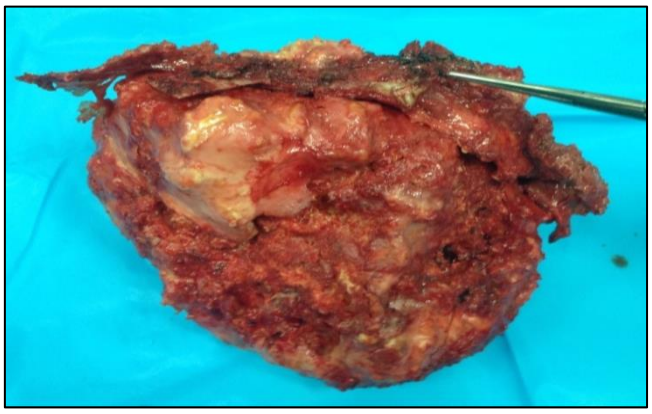

figure 4 Operative Piece (monoblock excision)

The parietal repair required the installation of a synthetic plate (Merseture) . a submuscular Vicryl plate fixed on the limits of the excision followed by musculocutaneous closure. (figure 5).

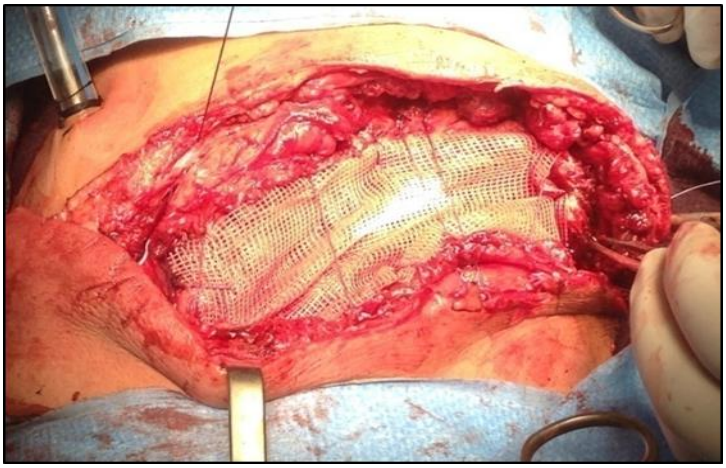

figure 5 Repair by installing a plate.

The postoperative course was simple.

RESULTS:

The early postoperative course was simple. Regular radiological checks without abnormalities or recurrence. Patient discharged on postoperative day 8. And having benefited from regular monitoring once a month. (figure 6).

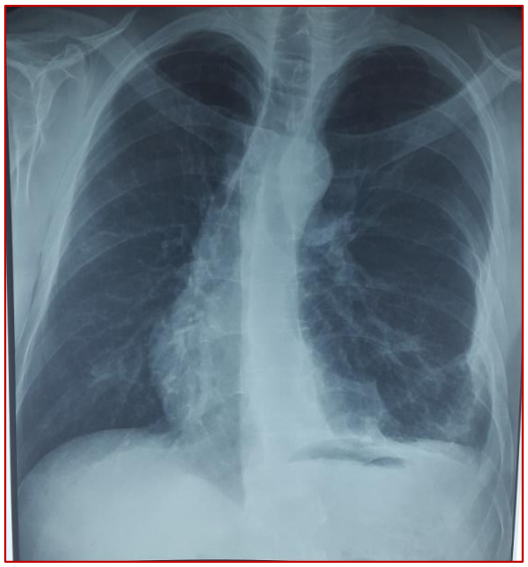

figure 6. Control TLT on post-operative day 8

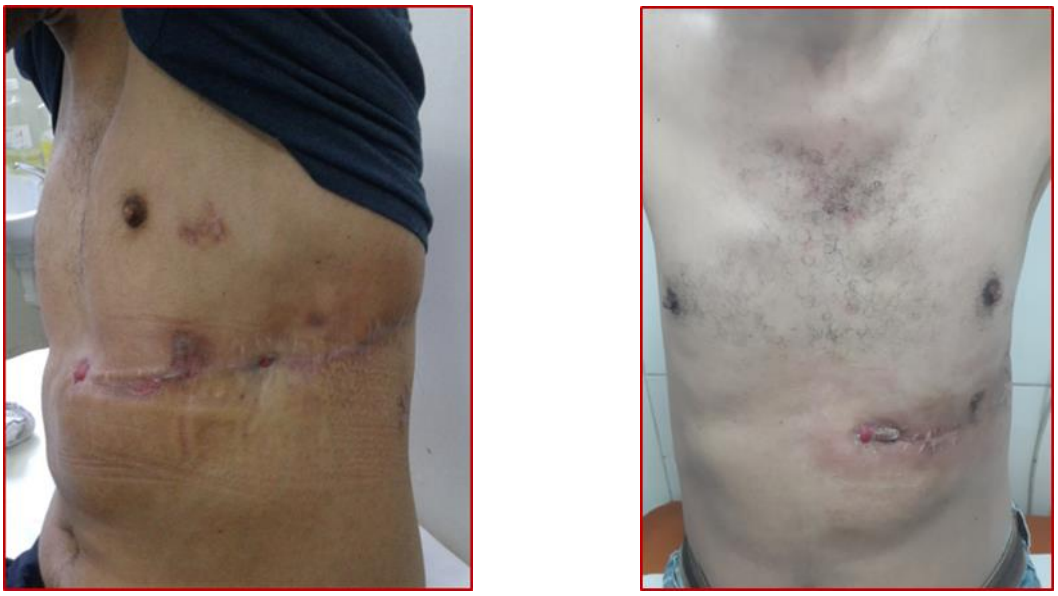

figure 7. Musculo-cutaneous parietal healing on post-operative day 21

PATHOLOGICAL RESULTS:

Mascroscopically: Macroscopic analysis of the surgical specimen found a tumor weighing 1250 g. Tumor mass measuring 24x23x19cm, roughly rounded with a hard consistency on the periphery with a whitish multi-lobulated appearance and the center largely necrotic. The skin and soft tissues are macroscopically infiltrated.

Microscopically: cartilaginous tumor proliferation made of confluent lobules with a chondromixoid matrix . The cytonuclear atypias are very marked. Tumor necrosis is 50%. This tumor proliferation includes sections of pre-existing oslamida which invade the soft tissues and the spongy costal bone.

Appearance: grade II chondrosarcoma. (figure 5).

After one year of follow-up, the general condition of our patient remained good, with no detectable recurrence.

DISCUSSION:

Chondrosarcomas represent the 2nd most common type of bone tumor in adults after osteosarcoma (3). They are exceptional in children since only 3.8% of chondrosarcomas occur before the age of 20. All bones

can be affected but the most frequently affected areas are the pelvis and femur. (4)

The radiological appearance is that of a tumor partially destroying the bone, poorly limited, associated with a soft tissue tumor. There is often significant calcification of the bone lesion and soft tissue tumor.

On histological examination, chondrosarcomas are classified into three levels of increasing malignancy. A histological analysis on a single fragment is not enough to make the diagnosis because this tumor is very heterogeneous and very different areas can coexist. It is therefore necessary to carry out several biopsies.

The treatment is surgical and consists of largely removing the tumor. The prognosis is linked to the quality of this surgery and the histological grade. Surgery that could not have been complete can lead to local recurrence with possibly an increase in the degree of malignancy and an increase in the risk of metastasis. In inoperable forms, high dose irradiation (40 to 70 Gy), combining several types of particles, can make it possible to obtain local control, especially for low-grade tumors. The prognosis of chondrosarcomas in children does not appear to differ from that of adults. (5) Its treatment is primarily surgical as in all sarcomas, however, its prognosis remains poor in the face of a tumor of more than 5 cm in diameter, local invasion, high histological grade and incomplete surgical resection .(6)

Complete surgical excision of the tumor, when functionally and technically possible, remains the determining factor for long-term survival.

CONCLUSION:

Chondrosarcomas are malignant bone tumors, whose primary thoracic location is rare and often poses more difficult problems although its diagnosis can be approached by CT or even MRI thanks to the possibilities of characterizing the tumor matrix and analysis. precision of the cortex, contours of the tumor and its extension to soft tissue as well as the high potential for locoregional and distant invasion. Wide surgical excision is immediately necessary and remains the only curative treatment for thoracic chondrosarcoma. This article treats a case of primary chondrosarcoma of the chest wall by tracing the clinical, radiological, etiological and therapeutic profile while emphasizing the place of surgery in therapeutic management, and its proper conduct.

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