

Diagnostic Dilemma of Rib Osteochondroma in A Child: A Case Report

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Abstract

Introduction: Osteochondroma is the most common benign bone tumor, it usually arise from the long bones. However, involvement of other small bones and flat bones are very rare. Rib tumors are very rare in pediatric age group and most of them are malignant. So it is very important and crucial to diagnose Osteochondroma of rib in a child.

Case Presentation: A ten year-old boy presented with a hard painful swelling around left 6th rib. Radiographs of chest revealed nothing conclusive. We suspected some tumor and planned for CT scan. CT scan showed a well defined expansile lytic lesion with soft tissue component, most likely Ewing's sarcoma. FNAC was performed and was reported as Chondroblastoma. Excisional biopsy was done and histopathology confirmed the lesion to be Osteochondroma.

Conclusion: rib tumors are usually malignant in paediatric age group. To diagnose a Osteochondroma of rib in this patient is very crucial because of CT scan was suggestive of Ewing's sarcoma, FNAC was suggestive of Chondroblastoma and excisional biopsy was suggestive of osteochondroma. So there is a great diagnostic dilemma to diagnose Osteochondroma of rib in paediatric age group.

Keywords: Osteochondroma, rib, malignant

Introduction

A ten year-old boy presented with a hard painful swelling of approximately (5mm×6 mm) on left chest wall at around costo-chondral junction of left 6th rib (fig-1). CT scan showed a well defined expansile lytic lesion with soft tissue component measuring 26×15mm involving anterior end of left 6th rib suggestive of neoplastic origin, most likely Ewing's sarcoma. The growth was seen extending inside chest wall, abutting pleura with exophytic component (fig-2). FNAC was performed and was reported as Chondroblastoma. Due to financial constraints of the patient, MRI could not be done and thus excisional

biopsy was planned. Excisional biopsy was done with resection of part of the left 6th rib along with chondral cartilage, leaving the overlying pleura intact and the material was sent for histopathological examination (fig-3). Histopathology (fig-4) confirmed the lesion to be Osteochondroma. Postoperatively patient was asymptomatic till last follow up at 7 months after surgery.

Case report

Rib lesions are rare entities in paediatric population and most of them are malignant. According to various studies, most rib neoplasms (52%-90%) are malignant [4, 5]. Out of various benign lesions, rib

Osteochondroma is a very rare entity [4]. Costal Osteochondroma is associated with complications like, restriction of chest wall movement, pain, cosmetic abnormalities and bursitis [4]. Costal osteochondromas tend to grow into the chest cavity and are rarely exophytic. A case of exophytic costal osteochondroma has been reported in a child [4]. But in our case, the osteochondroma had both exophytic and a component of growth towards pleura. To the best of our knowledge, this type of lesion in rib has not been reported in literature. We have treated this condition by extrapleural enblock excision of tumor with part of rib and

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Figure 1. Clinical photograph showing bony lesion over left side 6th rib at around costochondral junction.

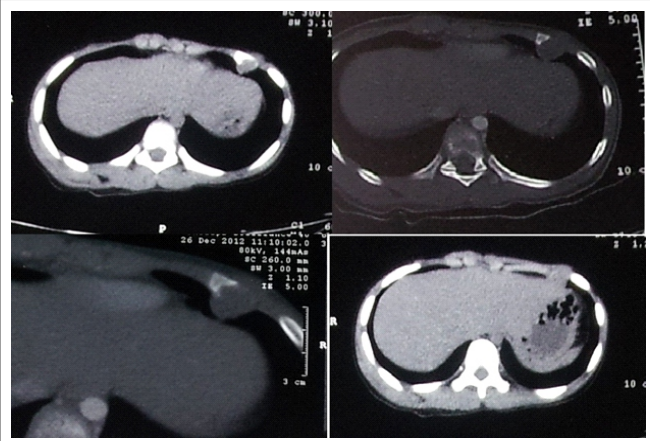


Figure 2. CT scan showing expansile lytic lesion with soft tissue component measuring 26x15mm involving anterior end of left 6th rib with both exophytic and endophytic components.

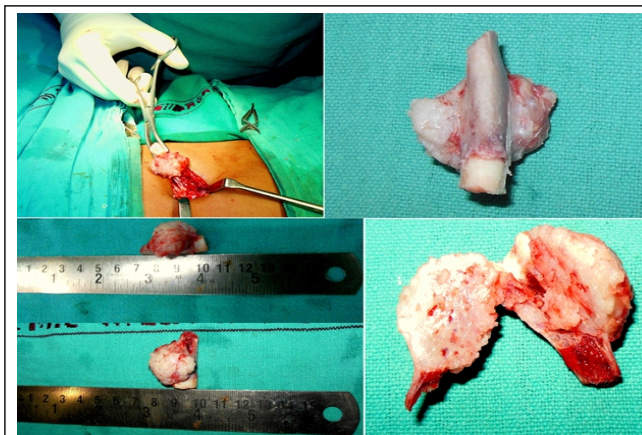


Figure 3. Showing excisional biopsy tissue along with part of rib and chondral cartilage and cut section showing cartilaginous cap.



Figure 4. Histopathology picture showing Osteochondroma.

chondral cartilage.

Clinically patient was presented with pain full swelling. As per literature it was thought to be a malignant lesion. But CT scan was suggested malignant tumor, most likely Ewings sarcoma. FNAC was in favour of as benign lesion, Chondroblastoma. So we had planned for excisional biopsy and confirmed as Osteochondroma. Rib Osteochondroma in child is of great diagnostic dilemma. Therefore, it requires proper diagnosis and treatment.

Discussion

Rib lesions are rare entities in paediatric population and most of them are malignant. According to various studies, most rib neoplasms (52%-90%) are malignant [4, 5]. Out of various benign lesions, rib Osteochondroma is a very rare entity [4]. Costal Osteochondroma is

associated with complications like, restriction of chest wall movement, pain, cosmetic abnormalities and bursitis [4]. Costal osteochondromas tend to grow into the chest cavity and are rarely exophytic. A case of exophytic costal osteochondroma has been reported in a child [4]. But in our case, the osteochondroma had both exophytic and a component of growth towards pleura. To the best of our knowledge, this type of lesion in rib has not been reported in literature. We have treated this condition by extrapleural enblock excision of tumor with part of rib and chondral cartilage

Conclusion

Rib tumors are rare entities in the pediatric population. However, a significant number of rib lesions are malignant. Therefore, proper diagnosis and expeditious treatment are essential.

Clinical Message

Most of the rib lesions are malignant. Though rare, Osteochondroma of rib do occur in children

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Conflict of Interest: Nil
Source of Support: None

How to Cite this Article

Reddy KB, Kanojia RK, Sareen A, Keshri V. International Journal of Surgical Cases 2016 Sep - Dec; 2(2): 16-18.