

## Case Report

# Video-assisted thoracoscopic surgery for rib chondrosarcoma: unique surgical technique

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### ABSTRACT

Chondrosarcoma's of the rib are a rare presentations and hence there's a lot to be explored for the best method of surgical intervention. This case highlights how we used VATS for excision of a rib chondrosarcoma and reconstructed the defect using prolene mesh and PMMC flap.

**Keywords:** Chondrosarcoma's of the rib, VATS, PMMC flap

## INTRODUCTION

Chondrosarcomas usually present in males between the 4<sup>th</sup> and 5<sup>th</sup> decade of life.<sup>1</sup> It is the second most frequent primary solid neoplastic tumor of the bone after osteogenic sarcoma.<sup>2</sup> With respect to treatment, chondrosarcomas are not responsive to chemotherapy, radiotherapy and surgical resection with sufficient margins is considered as first line of therapy.

It is relatively rare for a chondrosarcoma to arise in the ribs.<sup>3</sup>

## CASE REPORT

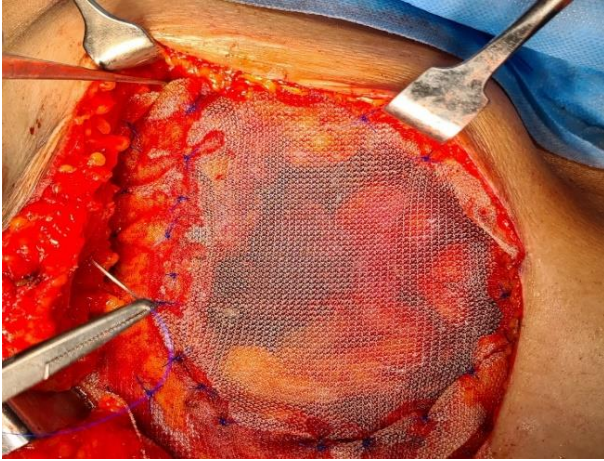
Here we reported the history, diagnostic evaluation and management of a patient presenting with anterior chest wall mass. A 50 year old male came with history of an incidental finding of a pleural based space occupying lesion. A CT Thorax was done which revealed a large well defined heterogeneously enhancing lesion broad based towards pleura in the right upper lobe region likely pleural in origin approximately 5.3×5×3.4 cm in size. CT guided biopsy revealed it to be a spindle cell neoplasm. Patient was taken up for surgery- video assisted thoracoscopic wide local excision of 2<sup>nd</sup> rib chondrosarcoma under

general anesthesia. Under thoracoscopic guidance needles were placed 1cm margins away from the tumour. The mass was excised enbloc with lateral margins being parts of 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> ribs (Figure 1).



**Figure 1: Surface marking of tumour and site of incision.**

The chest wall defect was reconstructed using prolene mesh and PMMC flap was raised to cover the mesh (Figure 2). Post-operatively the patient did not require any mechanical ventilatory support, had a speedy recovery and was discharged on post-operative day 3 on oral analgesics.

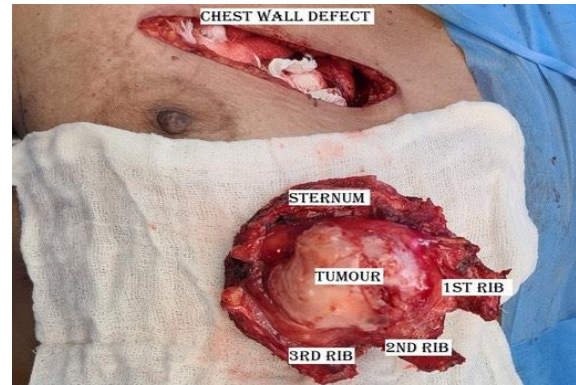


**Figure 2: Prolene mesh placement to cover chest wall defect.**

## DISCUSSION

In recent past, substantial insights have led to a better understanding of chondrosarcoma development at the molecular level, however surgical intervention remains the cornerstone of its management.<sup>4</sup> In this case, we utilized thoracoscopic guidance for Ro resection of the tumor. Video-assisted thoracoscopic surgery (VATS) has revolutionized the approach to and management of many pulmonary and cardiac diseases over the past 2 decades. VATS has multiple advantages over traditional thoracotomy including less post-operative pain, shorter hospital stay, decreased post-operative complications like pulmonary atelectasis along with early recovery of respiratory function and less need for post-operative mechanical ventilation.<sup>5</sup>

By visualizing the tumor under thoracoscopic guidance, we were able to demarcate an appropriate 1 cm margin and hence avoid extensive resection. This helped in early post-operative recovery and lesser duration of hospital stay for the patient. The final histopathological report confirmed uninvolved margins and the patient did not require any adjuvant therapy (Figure 3).



**Figure 3: Specimen of excised tumour.**

## CONCLUSION

By using thoracoscopic assistance for resection of anterior chest wall masses like rib chondrosarcoma, we enhance Ro resection outcomes as well as post-operative recovery of the patient.

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