



RIB HEMANGIOMA: A DIAGNOSTIC DILEMMA

Dr. Swarnava Dattagupta

Senior resident, MBBS, DNB Orthopaedics, Department of Orthopaedics, Nil Ratan Sircar Medical College and Hospital, Kolkata.

Dr. Prashant Kumar*

Senior resident, MBBS, MS Orthopaedics, DNB Ortho, Department of Orthopaedics, Institute of Postgraduation Medical Education and Research, SSKM, Kolkata.

*Corresponding Author

ABSTRACT Hemangiomas account for approximately 1% of all bone tumors and commonly involve the skull and the vertebrae. Hemangioma of the ribs is a very rare entity and only few have been documented in the literature. Only histopathological diagnosis might prove to be confirmatory as diagnostic dilemma persists pre-operatively. We reported a case of it, in which 39-year male patient presented with incidental bony lesion in left 8th rib. After radiography and CT scan we planned for excisional biopsy of the lesion and histopathology confirmed the same.

KEYWORDS : Rib hemangioma, extremely rare, diagnostic dilemma, excision and biopsy.

CASE REPORT

A 39-year-old male went for a routine checkup and presented to us with an incidental finding of a bony lesion in the left 8th rib as evident in chest X-ray. When he came for follow up 2 months later, he complained of dull aching pain over the same rib. The patient had no previous history of local trauma. No history of fever, cough or recent weight loss was there. Clinical examination revealed an ovoid, smooth, hard, tender mass measuring 4cmx1.5cm over the posterolateral aspect of left 8th rib without any regional lymphadenopathy. Computed tomography (CT) scan of thorax showed ill-defined expansile lytic lesion involving posterolateral aspect of left 8th rib with minimal cortical thinning and irregularity. Routine blood investigations were normal. Patient underwent surgical excisional biopsy. A postero-lateral thoracotomy approach was used and the tumor with 2-cm surrounding margin was excised en-block. The post-operative period was uneventful; patient recovered well and there was no recurrence at one-year follow-up. Histopathology report revealed mature cortical bones with markedly dilated vascular spaces mixed with numerous small and medium sized blood vessels with intervening stroma suggestive of intraosseous hemangioma.

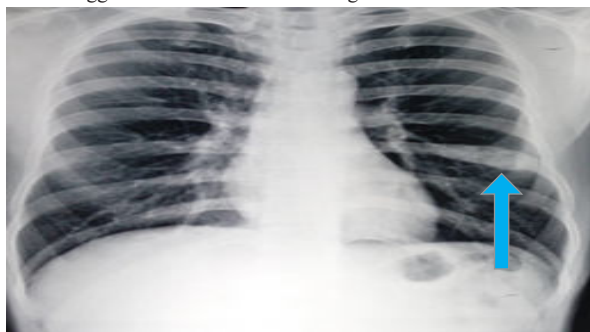


Figure 1: Chest Xray AP And Left Oblique View Showing Bony Lesion In Left 8th Rib

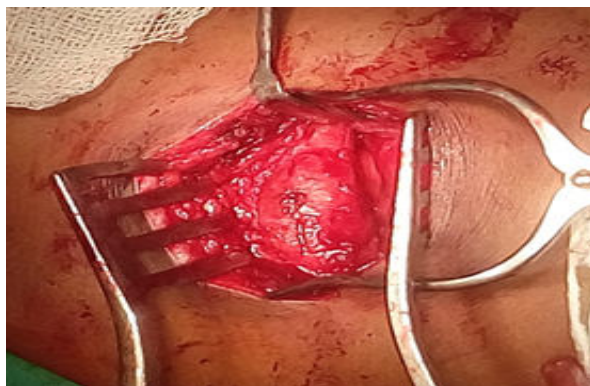


Figure 2: Excision Of The Tumour

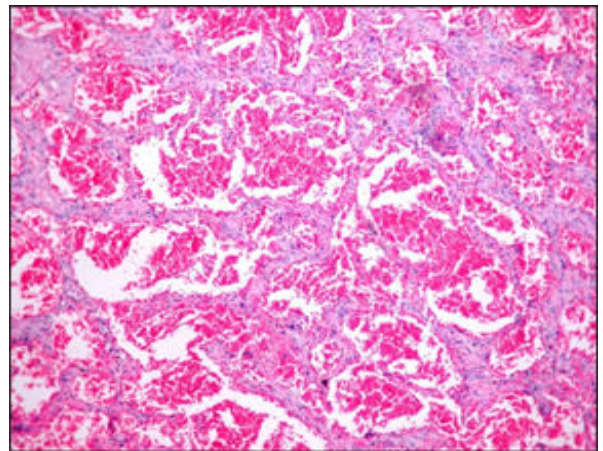


Figure 3: Histopathology Of Rib Hemangioma

DISCUSSION

Osseous hemangiomas are about 1% of all primary bone tumours¹, localized mainly on craniofacial bones and spine². Involvement of rib is extremely rare and reports of rib hemangiomas in the literature are very few. Preoperative diagnosis of rib hemangioma is difficult as most cases are asymptomatic and the lesions are incidental findings only. Honeycomb, soap bubble and sun-burst appearances of hemangioma had been described at different bony sites³. Plain radiographic findings are often inconclusive and confirmation will be only by histopathology study. Radiographically, a radiolucent, expansile and well-defined intraosseous lesion with radiating trabecular pattern is suggestive of hemangioma for extraspinal sites⁴. Pre-operative CT-guided biopsy had been a good option, but many primary bone tumors are inhomogeneous and limited sample size may lead to misdiagnosis. Incisional biopsy leads to considerable blood loss² and hence should better be avoided. The histopathological diagnosis of a hemangioma is not difficult from an en bloc specimen. However, diagnosis from biopsy becomes challenging to the pathologist because of the destructive nature of these procedures. This causes hindrance in pre-operative diagnosis of hemangioma by any invasive procedure⁵. Hemangiomas can be classified histologically as cavernous, capillary, venous or mixed. Cavernous hemangioma is the commonest type in the peripheral bones⁵. Hemangioma mainly involve medullary and the intracortical. Pure capillary hemangioma accounts for 10% of lesions as reported in the literature⁶. The other varieties are rare. Hemangiomas are generally slow growing and malignant transformation is virtually unknown.

Rib hemangioma has various differential diagnoses- fibrous dysplasia, plasmacytoma, aneurysmal bone cyst and giant cell tumor being the common ones. Fibrous dysplasia is the commonest non-neoplastic bone tumor and generally presents as a painless, expanding, lytic mass

in ribs⁷. Plasmacytoma and multiple myeloma are typically seen as punched-out lytic lesions with associated systemic manifestations⁷. Aneurysmal bone cysts are commonly associated with fluid levels⁷. So, all these should be excluded before coming to final diagnosis.

CONCLUSION

Hemangiomas should specially be considered in cases of asymptomatic or mildly symptomatic rib tumors. CT scan might be diagnostic, which should be followed by excision and biopsy. Histopathology confirms the diagnosis.

CONFLICT OF INTEREST

No conflict of interest

REFERENCES

1. Dorfman HD, Steiner GC, Jaffe HL. Vascular tumors of bone. *Human Pathol.*1971;2: 349–376.
2. Ogose A, Hotta T, Morita T, Takizawa T, Ohsawa H, Hirata Y. Solitary Osseous hemangioma outside the spinal and craniofacial bones. *Arch Orthop Trauma Surg* 2000; 120: 262–266.
3. Stoker DJ, Saifuddin A. Bone tumours, 1: general characteristics, benign lesions. In: Grainger RG, Allison D, ed. *Grainger & Allison's Diagnostic Radiology: A Textbook of Medical Imaging*. Sheffield, United Kingdom: Churchill Livingstone.2001;1862.
4. Resnick D, Kyriakos M, Greenway GD. Tumors and tumor-like lesions of bone. *Diagnosis of bone and joint disorders - 4th ed.* W.B. Saunders. 2002;3978–3979.
5. Kaleem Z, Kyriakos M, Totty WG. Solitary skeletal hemangioma of the extremities. *Skelet Radiol.*2000;29:502–513.
6. Dorfman HD, Czerniak B. Vascular lesions. *Bone tumors*. St. Louis, MO: Mosby.1998;729–814.
7. Tateishi U, Gladish GW, Kusumoto M, et al. Chest wall tumors: radiologic findings and pathologic correlation - part I. Benign tumors. *Radiographics.*2003;23:1477–1490.