Case Report

DEVELOPING BULDGE ON ANTERIOR CHEST CHONDROSARCOMA

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HISTORY

A middle aged man who recalls a box having fallen on his chest four years ago while on a construction job presented with the development of a "Hump" which had continued to grow. No history of temperature, pain, cough or shortness of breath. On examination there was a large 7 x 8 cm hard immobile mass with diffuse margins in the middle of the upper chest. He was being treated for cold abscess, by general practitioners before his actual diagnosis.
Laboratory investigations were unremarkable, except for low Hemoglobin (10.5 mg/dl).

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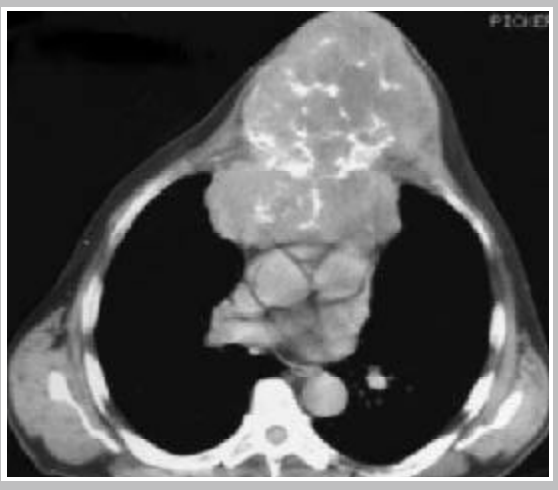
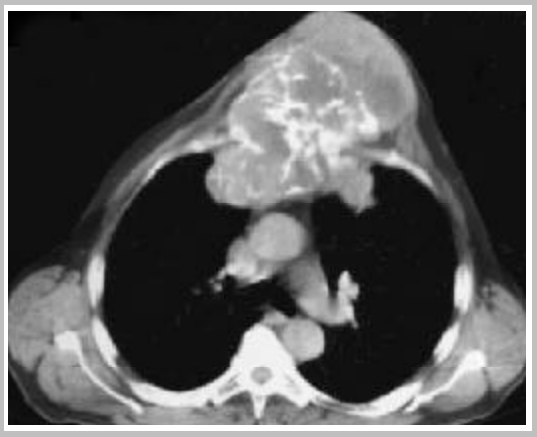
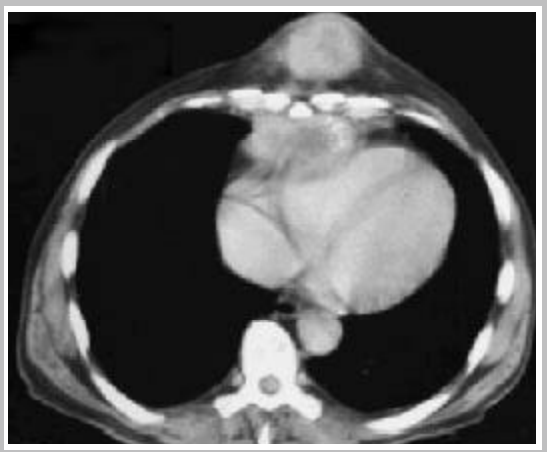
RADIOLOGICAL IMAGING

CXR: Showed a large soft tissue mass with streaky calcifications, involving the anterior chest wall.

CT: Huge heterogeneous soft tissue mass arising from the sternum with streaky, curvilinear internal calcifications. The anterior mediastinal component, compressing the heart.







MRI: Large mass is composed of multiple lobules that are iso-intense on T1, enhancing brightly and heterogeneously, separated by fibrous tissue septae.

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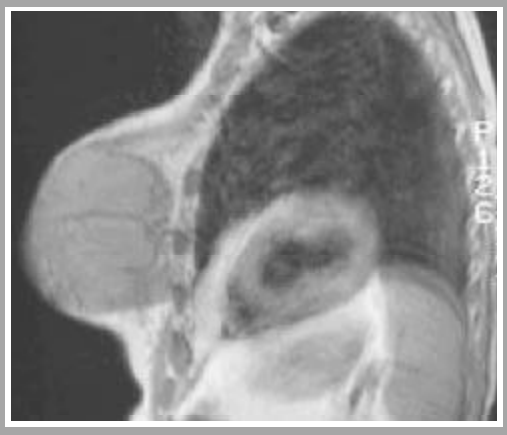

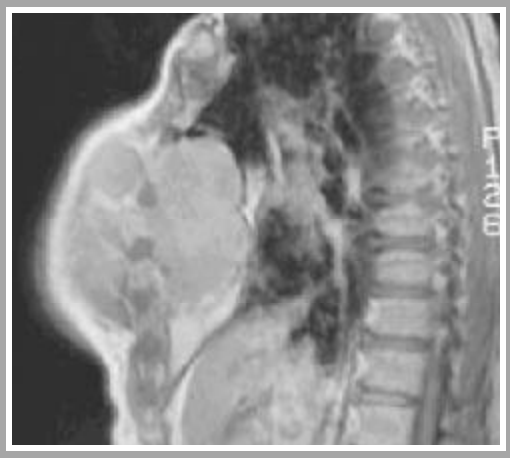

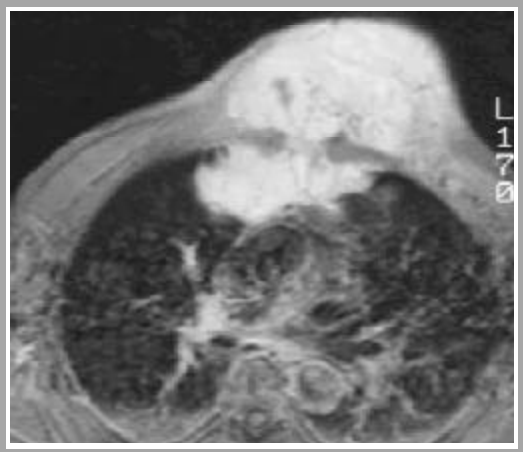

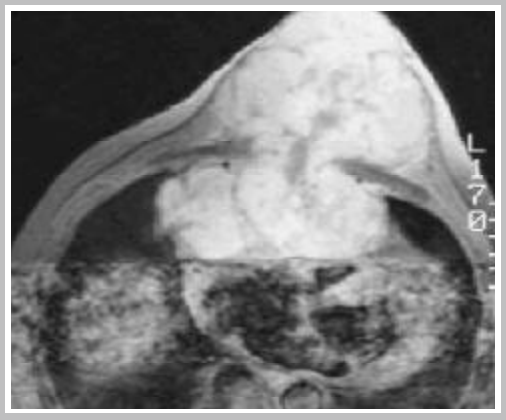

Radiological Diagnosis: Chondrosarcoma
Pathology: Chondroblastoma

DISCUSSION

Chondrosarcoma is the third most common primary bone tumor, following multiple myeloma and osteosarcoma. It is seen in older patients and more often in males. It generally follows a slow clinical evolution, can grow to substantial sizes and metastasize late. Most are primary (76%) and are central (endosteal, medullary chondrosarcomas). Chondrosarcomas can also be secondary (15%), arising from the cartilagenous cap of an osteochondroma most frequently seen in patients with multiple exostosis (Ollier's and Maffucci's). Dedifferentiated chondrosarcomas (higher-grade tumor) and clear cell chondrosarcomas (low grade) are less common varieties.

Chondrosarcoma is a tumor of cartilagenous tissue, which is characteristically composed of lobules separated by fibrous septae. Enchondral ossification around these lobules gives rise to the classic arcs and rings (or C's and O's). There can also be flocculent / punctate calcification within these lobules, or streaky dystrophic calcification related to areas of necrosis. They are generally larger than enchondromas with an average maximal dimension of 5-10cm.

Chondroblastomas (also known as Codman's tumor) are uncommon benign tumors seen in young patients (80% between 5-25 yrs), and males> females. They are usually small (1-7cm in diameter) and found in the epiphysis of extremities. Histologically, there are chondrocytes mixed with giant cells and there may be small lobules of chondroid matrix. There is no recognized malignant counterpart.

Sometimes the tissue diagnosis is not entirely clear.Several "benign" chondroblastomas have metastasized as benign tumors, and some, usually called "aggressive," have produced huge, occasionally lethal, local recurrences. When the component cells and overall histopathologic characteristics of a cartilaginous lesion suggest that the most likely designation is that of atypical chondroblastoma, the pathologist must be sure that the correct diagnosis is not something else, such as clear-cell chondrosarcoma or even an atypical fibrous histiocytoma. Likewise, the roentgenographic appearance may suggest the diagnosis of benign chondroblastoma when the pathologic appearance is clearly malignant.

REFERENCES

1. Dahkin DC, Unni D, Krishnan K. Bone Tumors: General Aspects and Data on 8,542 cases 4th ed. Charles C Thomas. Illinois: Springfield; 1986.p. 234.

2. Mirra JM. Bone Tumors. Philadelphia: Lea & Febiger; 1989.p. 354.

3. Felix C. The Bare Bones. Philadelphia: Aspen publishers;1989.p.143.

4. Cotran RS, Kumar V, Robbins, SL, eds. Robbins Pathologic Basis of Disease, 4th ed. Philadelphia: WB Saunders;1989.p. 543-56