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Unusual site of Chondromyxoid fibroma

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Running Title: Unusual site of Chondromyxoid Fibroma

UNUSUAL SITE OF CHONDROMYXOID FIBROMA

ABSTRACT

We present a rare occurrence of Chondromyxoid fibroma (CMF) in proximal 3rd humerus. 28 year old male with proximal humeral pain had a lesion in the proximal 3rd humerus on X-ray. Since, it appeared as benign lesion and small in size (radiologically looked like intra-osseous ganglion) we decided for excisional biopsy. The histopathological examination revealed that it was Chondromyxoid fibroma.

INTRODUCTION

Chondromyxoid fibroma (CMF) is a rare benign neoplasm of cartilaginous origin. It usually occurs in the metaphyseal region of the long tubular bones, particularly the upper tibia, at a variable distance from the growth cartilage and often in close contact with it. The juxtacortical and intracortical areas are unusual locations for this tumor with only a few sporadic cases reported in the english language medical literature. We report here a rare case of Chondromyxoid fibroma in the proximal humerus in a 28-year-old male.

REPORT

28-year-old male presented in our OPD with chief complaints of pain in left shoulder for last 1 year with aggravation in pain from last 5 months.
Pain was gradual in onset, progressive in nature, non-radiating.
On examination, there was tenderness present over posterior aspect proximal 3rd left arm, no bony swelling palpable, range of movements of shoulder was normal. There was no distal neurovascular deficit.

X-ray of left shoulder [fig 1 (a)] showed intra-cortical lytic lesion at the meta-diaphyseal junction of left proximal humerus suggesting infection/ benign lesion.

Blood investigations were done. Hb, TLC, DLC, ESR, CRP were all within normal limits.

MRI left arm [Fig 2 (a, b)] was done which showed well lobulated expansile lesion measuring 19 x 17 x 14 mm in the posterio-medial cortex at meta-diaphyseal junction of the humerus, showing iso intense signal on T1 and hyperintense signal STIR images causing focal destruction of the adjoining cortex. It shows thick hypointense margins and abutting the adjoining infraspinatus muscle suggesting of ? Non-ossifying fibroma.

Patient was planned for surgical excision of the lesion.

We used posterior approach. Lytic lesion was identified, demarcated as elevated uneven cortex. Expanded cortex was excised and it was found that the small-contained cavity was filled with jelly like colorless material and was removed along with bone piece and was sent for HPE. The bone bed was curated, debrided with the bur and cauterized. Wound was washed and closed in layers.

HPE [Fig 3 (a, b)] report showed moderately cellular tumor within the chondromyxoid stroma, with chondroid cells showing moderate nuclear pleomorphism suggestive of Benign Chondro myxoid tumor.

IHC-S-100 was positive.

DISCUSSION:

CMF is a rare lesion of cartilaginous origin, representing less than 0.5% of all bone tumors according to Mayo clinic series.

CMF is most commonly seen in the lower extremity, particularly the proximal end of tibia. 95% cases of CMF are seen in long bones involving metaphyseal region. Less common sites are the sacrum, thoracic or lumbar spine and craniofacial bones [1]. In a study of 278 cases of CMF by Chen Tu Wu et al., 46.9% of cases involved long bones, 30.3% flat bones, 17.3% involved bones of hand & feet, and 15% skull and facial bones. Out of 46.9% long bone lesions, 55.4% involved tibia, 19.2% femur, 10.8% fibula and 3.1% radius [2].

The clinical presentation varies according to the area involved and is associated with long standing history of non-specific symptoms like pain and edema. Usually CMF is slow growing tumor and detected incidentally on routine radiography. There is a long history of chronic local pain (85%), swelling and edema (65%) with palpable soft tissue mass and restricted movements in a symptomatic patients [3,4].

Our case is rare due to its origin in the meta-diaphyseal region of the proximal third humerus.

In the largest published series of CMF, which reviewed 278 cases, 5.4% occurred in the humerus and 5.8% involved the diaphysis. Location as found in our case is extremely rare, since CMF is usually an eccentric lesion in the medulla. Only 15 cases of juxtacortical or intracortical CMF have been reported in the English language medical literature. Furthermore, only three of 15 were purely intracortical CMF; two cases were in the proximal tibial metaphysis and another in the diaphysis of the humerus, which is illustrated by Greenfield in his textbook. An oval intracortical chondromyxoid fibroma that had not penetrated the medullary canal was seen on the radiograph of the humerus. Intracortical CMF is rare. On imaging it has features of a benign lesion, and in the absence of calcification its cartilaginous nature is difficult to predict. Its histologic features are as characteristic as CMF in more conventional

locations.

CONCLUSION:

CMF is a rare benign aggressive cartilaginous tumour usually involving metaphysis of long bones. Radiological findings often mislead clinicians. As recurrence rate of CMF is high, correct diagnosis and extended curettage of the suspected lesion should be done during excisional biopsy to avoid recurrence.

CONFLICT OF INTEREST:

There is no conflict of interest.

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X-ray

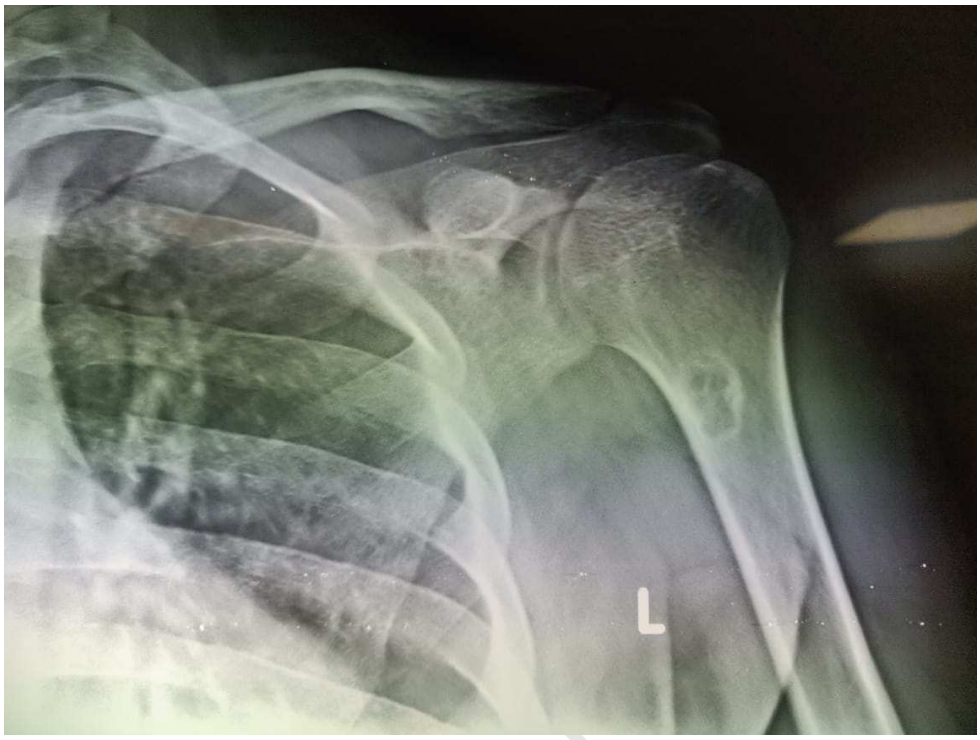

Fig 1 (a)

MRI Fig 2 (a, b).

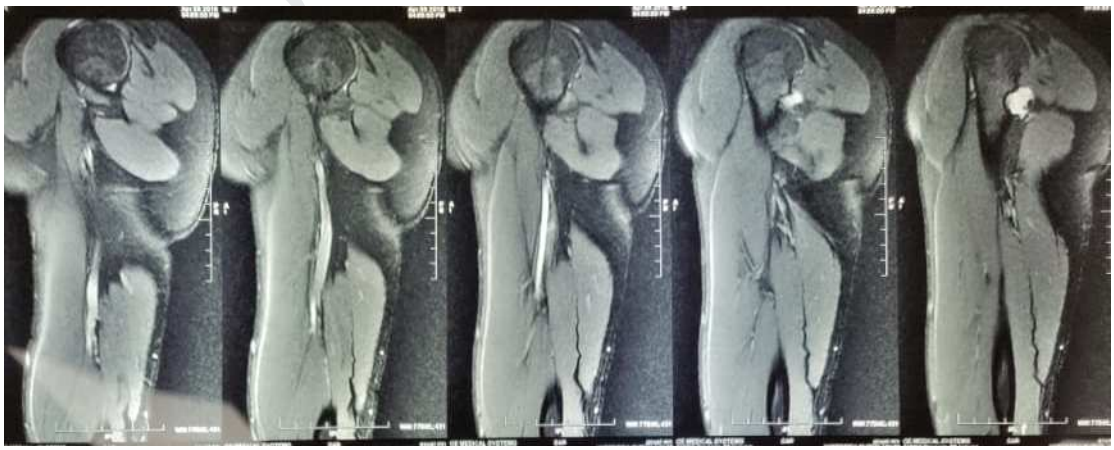

Fig 2 (a)

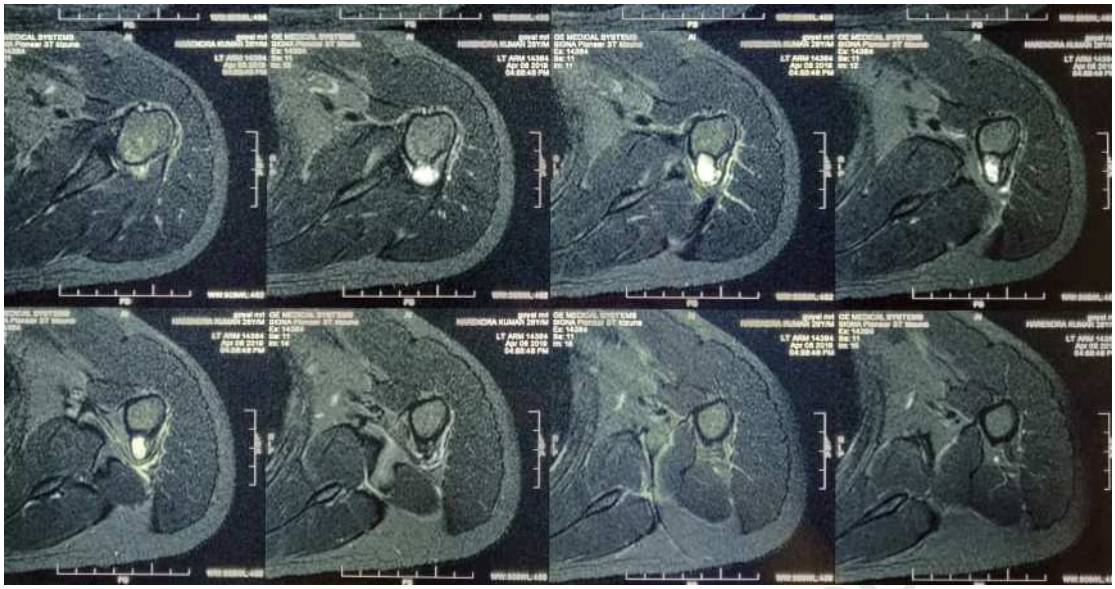

Fig 2 (b)

Histopathological examination [HPE; Fig 3 (a, b)]

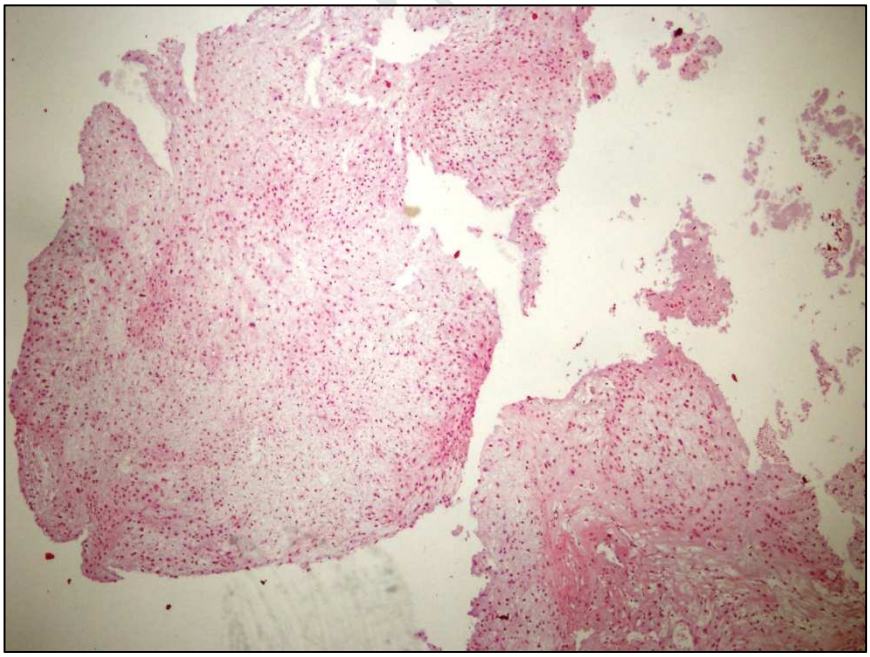

Fig 3 (a) Moderately cellular tumour (H&E, 4x)

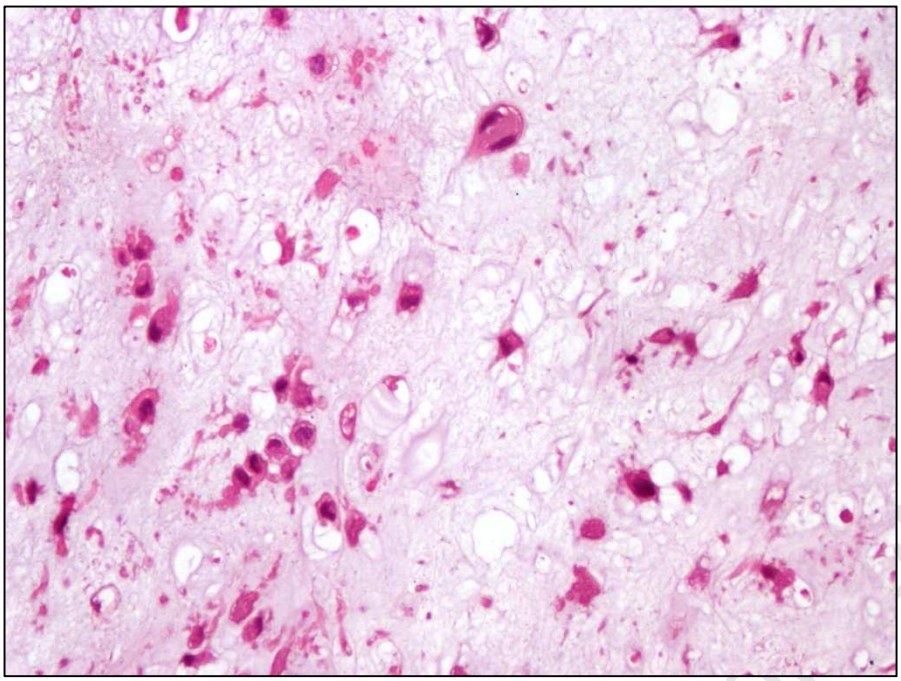

Fig 3 (b) Tumour cells are chondroid type with moderate nuclear pleomorphism. Occasional cell shows binucleation (H&E, 40x)