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Calcifying Aponeurotic Fibroma: Rare Case

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ABSTRACT
Calcifying aponeurotic fibroma is a rare, benign fibroblastic tumour. The lesion has a propensity for local invasion and a high recurrent rate. Therefore, accurate preoperative diagnosis and complete excision are important to prevent the recurrence of the tumour after surgical removal.
Keywords: *Calcifying aponeurotic fibroma1; Benign fibroblastic tumour 2; Benign fibroblastic tumour 3; dystrophic calcification 4; myofibroblast 5.*

INTRODUCTION

Calcifying aponeurotic fibroma was first described and referred to as juvenile aponeurotic fibroma by Keasbey in 1953 .[1] It is rare benign ,locally aggressive fibroblastic soft tissue tumour that typically occur in palm of hand and in the sole of feet in children and adolescents.[1,3] Twice more common in male .The lesion has tendency to infiltrate the surrounding tissue . Extrinsic cortical erosion of adjacent bone is rarely seen. The tumour has a predilection for local recurrence after surgical resection. [2,3]

CASE

8 yr female child presented with swelling over the left thumb for 1 yr. Swelling was progressive in nature. Initially it was painless but it got painful for last 1 month. No history of redness, local trauma and numbness. Patient evaluated and admitted for work up. Blood profile was within normal limit. The plain radiograph showed soft tissue mass with stippled calcification on thumb. So excision biopsy was planned under general anaesthesia.

During excision, the tumour was found to be adherent to the underlying tissue. Deeper portions of the tumour was adherent to and in continuity with the plantar aponeurosis. The gross specimen showed two gray-brown nodular globular soft tissue pieces measuring 2.5x2x1cm and 0.5x0.5x0.5cm. respectively. Cut surface was gray-white, firm and lobulated. Microscopically, the section shows tumor cells mainly comprising of benign spindle cells along with areas of dystrophic calcification in between, and focal areas shows proliferated blood vessels. At places plump myofibroblast cells surrounding dense collagen fibres are present. These features were compatible with calcifying fibroma.

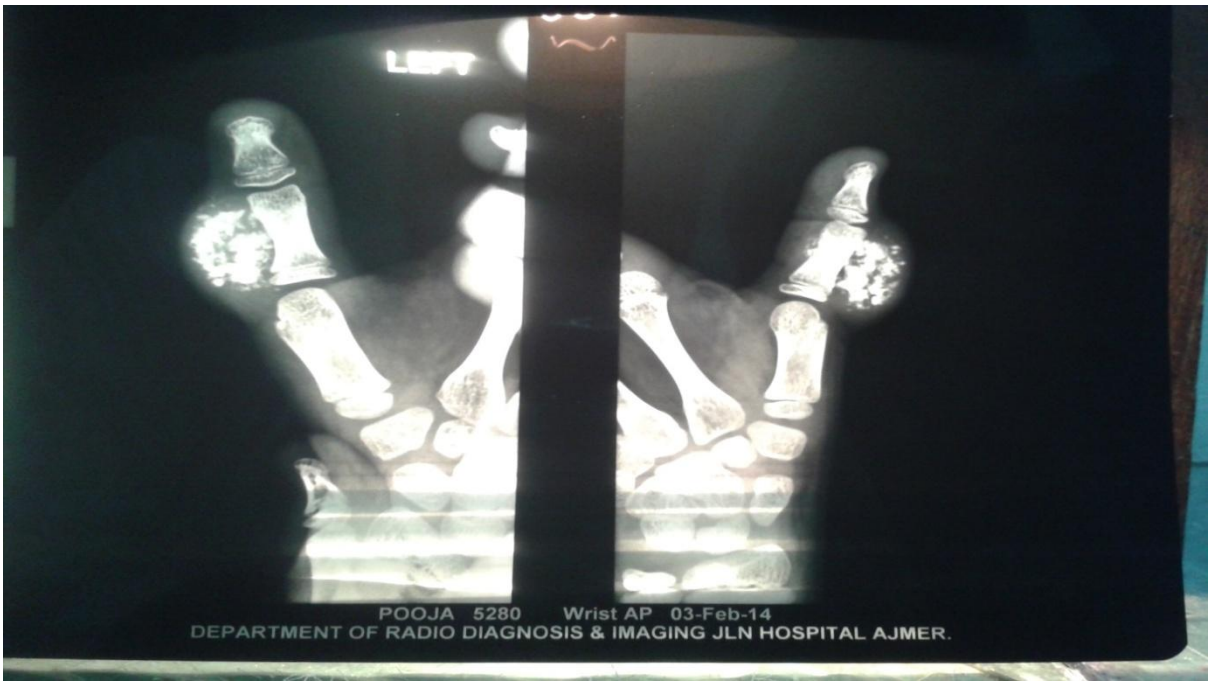

Fig. 1 Calcifying aponeurotic fibroma of thumb in 8 yr old female (wrist AP).
Radiographs of wrist demonstrate heterogeneously calcified soft tissue mass with minimal erosions of adjacent phalanx

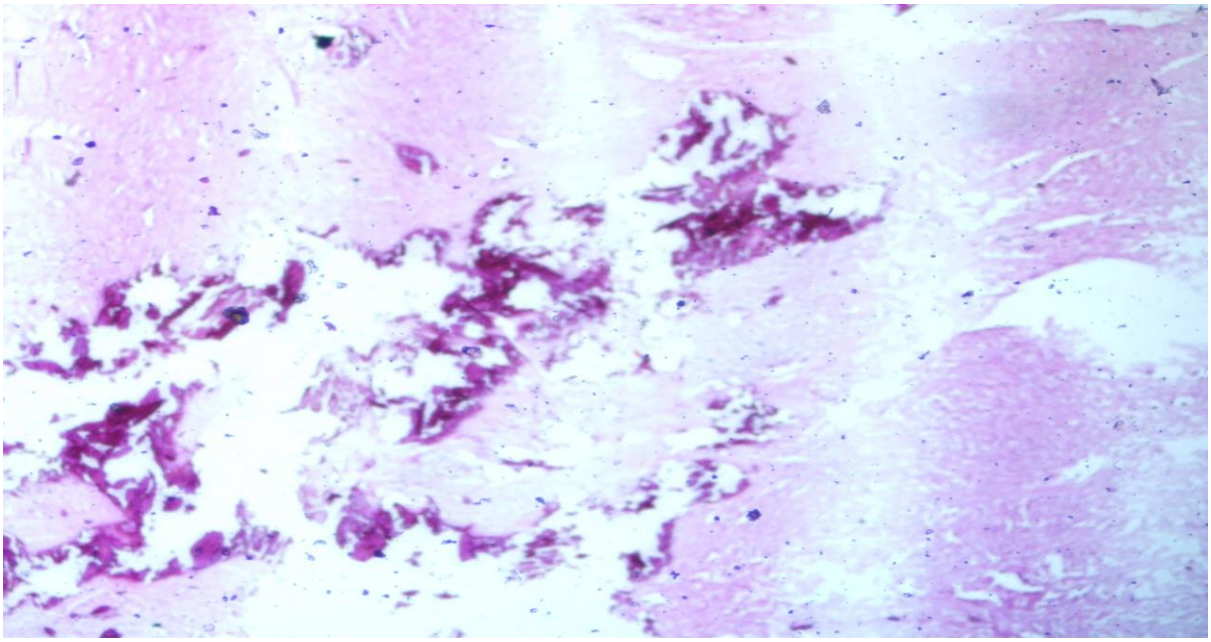

Fig 2. Biopsy specimen demonstrates a dense proliferation of fibroblasts with occasional giant cells adjacent to a calcific focus (hematoxylin-eosin stain, **XlO** [original magnification])

Discussion

Calcifying aponeurotic fibroma is a rare, benign, locally aggressive fibroblastic tumor. The tumor usually appears in the first to second decade of life, although cases have been reported for ages ranging from birth to 67 years. Male patients are twice as commonly affected as female patients. Our case was 8 yr old female. Calcifying aponeurotic fibroma typically occurs in the distal extremities, most commonly in the fingers, palms and soles and usually found superficially in subcutaneous tissue or in deeper musculofascial and para skeletal tissue, while an intratendinous

lesion has only been reported once in an adult. [1-4] In our case swelling was in left thumb.

The most constant clinical findings include slow-growing, non tender, firm, mobile mass less than 3 cm in diameter in the distal portion of the extremities in children and adolescents. [5] Our case having slow growing mass which was initially not painful later became painful. Radiographic features are also non pathognomonic. No calcification or only smudge-like radiopacities may appear initially. However, lesions that have been present for years may exhibit large calcified areas. [6] Ultrasound examination excludes the more likely diagnosis of a ganglion indicating a solid mass mainly fibrous with foci of calcification. A computed tomography also reveals a calcified rather than ossified lesion with a visible cleavage plane from bone, which may lead to the diagnosis of panniculitis ossificans, extraskeletal or parosteal chondroma. [5,6] Definite diagnosis is always based on histologic findings and sometimes on immunohistochemical tests and ultrastructural studies.[7]

The gross pathologic examination reveals a mass characteristically containing flecks of calcification and often attached to aponeurosis, fascia, or tendons. Histologically, the tumor is characterized by a dense proliferation of plump fibroblasts with ovoid nuclei and indistinct cytoplasm surrounded by a dense collagenous stroma. Foci of calcification and cartilage formation are invariably present in older lesions, and the fibroblasts surrounding these foci are in a peculiar linear or palisaded arrangement. [5,8] A typical microscopic picture appeared in our younger patient it shows tumor cells mainly comprising of benign spindle cells along with areas of dystrophic calcification in between, and focal areas shows proliferated blood vessels. At places plump myofibroblast cells surrounding dense collagen fibres are present. These features are suggestive of calcifying aponeurotic fibroma.

Although these tumors are locally aggressive and tend to recur following surgery, Enzinger and Weiss[5] did not report any malignant transformation or metastases. For symptomatic tumors, conservative surgical excision is the treatment of choice and re-excising a recurrent tumor is preferred to performing an extensive surgical dissection. A functional defect is likely attributable to surgical complications rather than to tumor growth.

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