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A CASE REPORT OF MYOSITIS OSSIFICANS MANIFESTING AS A PERIOSTEAL TUMOR OF THE DISTAL RADIUS

Orthopaedics

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ABSTRACT

A case report of myositis ossificans of the left distal radius in a 12-year-old male that occurred as a result of the native treatment the patient received after the initial trauma 4 weeks ago. The patient presented with a swelling over the distal part of the left wrist, which was suspicious for malignancy as a periosteal reaction on MRI, later confirmed as myositis ossificans by histopathology after surgical curettage. A monthly follow-up X-ray showed no recurrence and healing of the bone defect. The study concluded with the fact that myositis occurs as a result of native treatment such as native splinting.

KEYWORDS

distal radius curettage, periosteal reaction, myositis ossificans, native splinting

INTRODUCTION

STATE OF THE ART Myositis ossificans is a rare non malignant tumor manifesting as an ossifying lesion characterized by focal heterotopic bone and cartilage formation in the extra-skeletal region(1). The most common cause is native treatment. The other distal radius is rarely affected. A common site of involvement is the elbow and gluteal area(2). It can manifest itself as a malignant tumor in the form of a periosteal reaction (3). The confirmation is after histopathology report.Misdiagnosis is due to lack of awareness about treatment and people preferring native treatment.

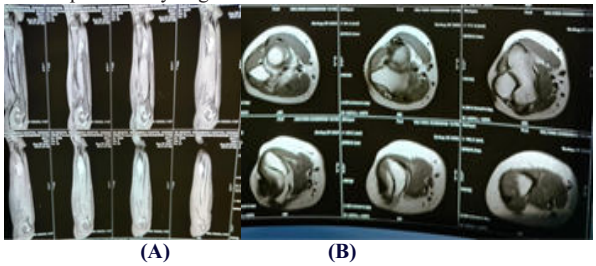
Case Presentation

This is a case report of a 12-year-old boy who presented with a 4x5 cm swelling over the left distal radius for 4 weeks. The swelling increased (Fig. 1).

Figure 1 shows swelling of the left wrist

Figure: 2 figure shows x-ray of B/L forearm with wrist and hand ;left distal radius shows lytic lesion and periosteum irregularity

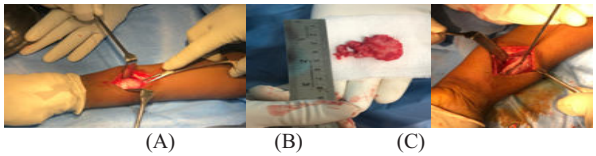
The patient had a history of slip and fall while playing cricket 4 weeks back, sustained a left wrist injury and underwent native splinting for the same. Routine blood tests, radiographs, and magnetic resonance imaging were performed (Fig. 2). - MRI noted a periosteal reaction that suggested tumor pathology involving the pronator muscle (Figs. 3).MRI shows Small PDFS hyperintense signal noted in the distal aspect of achilles tendon near.Its attachment site - Mild tendonitis.Signal change noted in the mid fibres of tibialis posterior and flexor digitorum longus tendon, however no discontinuity of the fibers seen - Suggestive of edema .Edema noted in the lumbrical muscles.Mild edema noted in the sinus tarsi.Marrow signal change seen in the all tarsal bones and head of 1st to 4th metatarsals. Comminuted displaced fractures noted in the base of 2nd metatarsal with displaced bony fragments.



(A) (B)

Figure:3 figure shows MRI of left elbow (A) coronal view and (B) sagittal view shows Eccentric cortical lesion involving medial and volar aspect distal radius with scalloping and focal cortical destruction

A curettage of the bone mass was planned for the patient. The bone mass was excised and measured 4X3 rest with cartilaginous closure. (Fig. 4) She was sent for histopathological examination. A cast was applied above the elbow. Report stated it as Myositis ossificans in histopathology.Gross Pathology shows Received multiple grey white to grey brown soft tissue fragments.Microscopy shows Multiple sections show dense proliferation of bland fibrous tissue with abundant collagen.Foci of vascular thick wall proliferation, inflammatory infiltrate ,spicules of woven bone and bone with calcification seen. The cast was kept for 4 weeks. A follow-up X-ray showed no significant radiological findings. Clinically, the patient was asymptomatic (Fig. 6). The patient was then recommended mobilization exercises on the elbows and wrists. The patient had fair outcome after surgery. Wrist and elbow movements returned to normal after physiotherapy.



(A) (B) (C)

Figure: 4 shows (A) Intra op image of myositis mass , (B)Intra op excised mass and (C) intra op of after excision

Figure: 5 shows C-arm picture of left distal radius after excision

Figure: 6 shows post op x-ray of left forearm filling of bone defect and bone healing

DISCUSSION

Myositis ossificans is a heterotopic ossifying mass that manifests as a tumor.(5)

The most frequently affected areas are the elbow and buttocks. It is also called a pseudotumor arising from skeletal muscle and is a heterotopic, metaplastic, benign bone tumor(2). It depicts a zonal phenomenon – peripheral and centripetal. It has two phases acute phase lasts 7-10 days and chronic phase. Microscopically, it has mesenchymal cells with a myxoid matrix and fibroblasts. After the acute stage, fibroblasts differentiate into osteoblasts and form an osteoid matrix and appear as a pseudotumor(6). The diagnosis can only be confirmed by histopathological examination. Commonly affected muscles include the brachialis and gluteus maximus, but it can occur in other muscles as well (8). The etiology is unknown in most cases. The patient usually gives a history of native treatment when presented. MRI and CT can be used to diagnose myositis, but USG is a more sensitive modality and helps in early detection and subsequent factors to be considered such as trauma, clinical symptom and radiological and histopathological correlation of the development of zonal phenomena(9). Early NSAIDs treatment with inflammatory agents can prevent the development of heterotrophic ossification in myositis and thus help prevent unnecessary biopsy.

CONCLUSION:

Myositis ossificans is a benign condition,often mistaken to be as a osteochondroma.Detailed history along with clinical examination play a pivotal role in accurate diagnosis.They may resemble as parosteal osteochondroma radiologically.But the main stay of diagnosis is histopathology after after surgical curettage .It also includes patient awareness regarding native treatment and complications arising due to the same.Treatment includes excision,curettage post operative immobilisation for 4-6 weeks followed by gradual mobilisation physiotherapy and resuming to normal day to day activities.

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