



CASE REPORT ON DISTAL HUMERUS FRACTURE WITH NEGLECTED POSTERIOR DISLOCATION OF ELBOW WITH MYOSITIS OSSIFICANS

E. Ganesan, Balaji Arumugam, Rathinavel

¹Associate Professor, Department of Orthopedics, ²Associate Professor, Department of Community Medicine, ³Professor and HOD, Department of Orthopedics, Tagore Medical College and Hospital, Vandalur, Chennai- 600048, Tamilnadu, India.

Corresponding Author:- **Dr.Balaji Arumugam**

E-mail: dr.a.balaji@gmail.com

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ABSTRACT

Fracture at the lower end of the humerus being the rare form of fracture among middle aged adults but if it occurs most common type of fracture at this site is comminuted fracture where the bones are broken into pieces which results dislocation and malunion or nonunion. Due to lack of attention to the injury at the elbow site the fracture bone goes for improper position and creates considerable impairment called as Malunion. "Myositis ossificans traumatica" is a term used to describe ossification that is formed at the site of any trauma. In this case, calcifications has occurred at the site of injured muscle and hence presenting a rare case of distal humerus fracture with progressive myositis ossificans in a middle aged adult male.

INTRODUCTION

The "**Humerus**" is the long bone of the upper arm which is located between the elbow joint and the shoulder. The elbow is a joint made up of three bones the humerus, radius, and ulna. It bends and straightens like a hinge. It is additionally imperative for pivoting the fore arm: the ability to turn our hands up or down.

Distal Humerus: The distal humerus is the part of the humerus which plays the major role of facilitating the ulna to move around, enabling the elbow motion. The center of the elbow joint is formed by the distal humerus. Thus, injury to distal humerus causes elbow movements difficult or impossible.

Distal Humerusfracture: Fractures of the distal humerus account for 2% of all fractures in adults and the frequency varied by gender and age with the higher incidence among

males in the 12 – 19 years old whereas the incidence is more in children with 5 to 10% [1,2].

Malunion can be defined as a fractured bone that has healed within the improper position that creates considerable impairment. A slight degree of malunion found commonly occurring in large number of fractures. A malunion may lead to an operating disadvantages using limited range of motion. Any malunion can place greater pressure in other joints leading to accelerated wear. Main examples of malunion could potentially cause disadvantages within perform along with significant deformity along with can result in degenerative osteoarthritis. Sensation problems destruction can take place, specifically through an elbow fracture.

Myositis Ossificans is a benign process characterised by heterotopic ossification usually within large muscles [3]. Its importance stems in large part from its ability to mimic



more aggressive pathological processes. It is characterised by formation of the lamellar bone in a non-osseous tissue producing some inflammatory changes. Most cases of myositis ossificans occur as a result of trauma, and thus the main group affected will be young adults [4]. We report a case of malunion that progresses along with myositis ossificans that has resulted due to fracture of the medial condyle of humerus.

Case Description

A young man aged about 27 years visited orthopaedic department complaining flexion deformity of the left elbow. The patient met with an accident before 5 years and was treated in a government hospital. History reveals that he has undergone tracheostomy due to head injury and hence treatment for injury at the site of elbow was neglected.

Clinical Examination of the Elbow: On inspection, there were no lacerations and flexion deformity was observed. Skin over the joint is normal. No discolouration, scars or ulcers on the left elbow. A localized bony prominence was noted on the medial aspect of the left elbow (Figure 1 and

2). Bony Ankylosis observed and there is flattening at the site of medial condyle. This ankylosed or stiff elbow is found in trauma or infection in cases of myositis ossificans. Isolateral triangle is altered. This triangle is formed by connecting olecranon fossa, medial and lateral condyles. No Neurovascular involvement. The patient was examined on flexion and extension. The patient was suggested for X ray examination and CT examination.

X ray findings

Plain film showed well circumscribed peripherally calcified appearance at the distal end of humerus masking the fractured site. The density of calcification suggests that the duration might be more than 4 to 6 months. (Figure – 1) String sign - lucent cleft that separates the lesion from the cortex of the adjacent bone is no clearly visible in plain film.

CT scan findings: (3D Reconstruction images)

CT appearances were similar to the plain film findings demonstrating mineralisation proceeding from the outer margins towards the center. The peripheral rim of mineralization is clearly visible.

Table 1. Showing restricted movements at the affected elbow joint

S.No	Range of Movements	Degree
1.	Flexion	40 ⁰ – 50 ⁰
2.	Extension	0 ⁰
3.	Supination	90 ⁰
4.	Pronation	90 ⁰

Figure 1 and 2. Plain X Ray lateral view showing margins of Myositis Ossificans

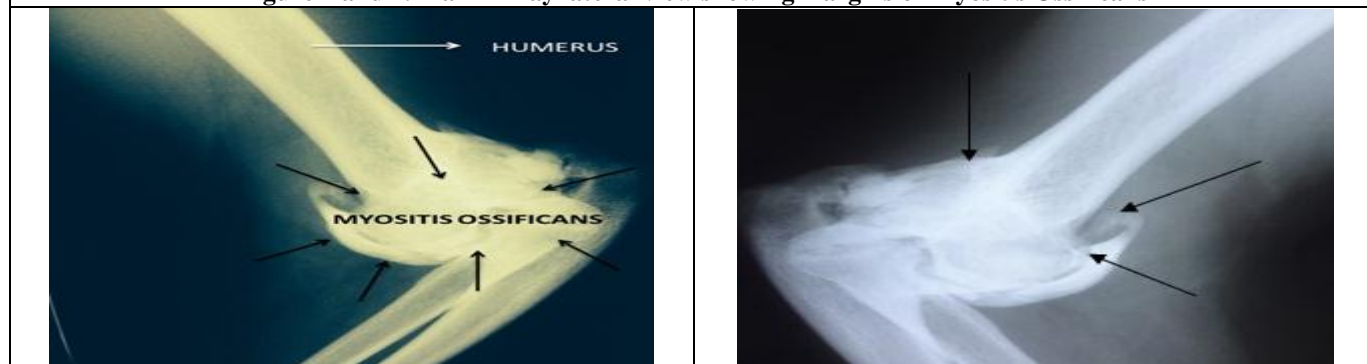
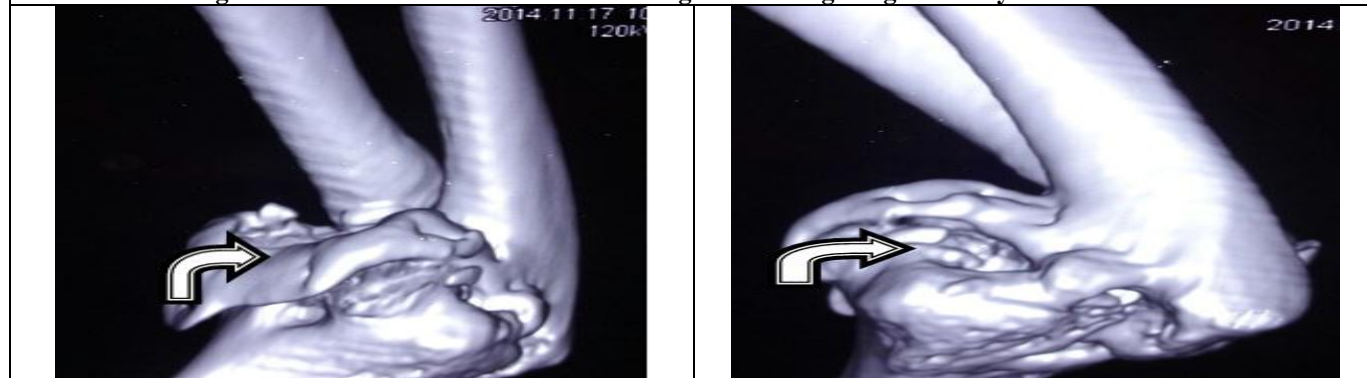


Figure 3 and 4. CT 3D Reconstruction Images - Showing the growth Myositis Ossificans



DISCUSSION

Myositis ossificans although uncommon in middle aged adults, this case presented with myositis ossificans traumatica with progressive calcification for the last 5 years and the patient presenting with bony swelling with flexion deformity at the elbow joint. The x ray features suggested calcification with well-defined margins and the calcified density is more towards the periphery than at the centre which differentiates possibility of any tumours originating from the bone. There was a clear space between the cortex and the calcification is not continuous which is split by the muscle fibres suggestive of striations. (Figure 1 and 2) Although this condition can easily be diagnosed with plain radiography, CT scan examination is more sensitive for detecting ossification [5]. In our case we have demonstrated it with the 3D reconstruction images which were well distinctly shown. Treatment is difficult because of the complicated multistep process of myositis ossificans

and sometimes it may heal and disappear spontaneously. Surgical resection is sometimes suggested if it remains persistent; however, invasive surgical resection of the calcified tumor-like mass may reduce local function and lead to local relapse [6]. The best strategy to manage this condition is to prevent its occurrence. Once it is established there is very little that can be done to accelerate the resorptive process but still some physiotherapy exercises are available to reduce the suffering.

CONCLUSION

We have described a case of neglected fracture dislocation of distal humerus with myositis ossificans in a middle aged male with typical findings at X ray and CT scan findings. Since little treatment modalities are available for myositis ossificans it becomes necessary to diagnose it as early as possible.

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