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A Case Report

**A RARE PRESENTATION OF MEDIAL CONDYLE FRACTURE
OF HUMERUS IN PEDIATRIC - CASE REPORT****Mutlaq Naheitan Alsubaie^{1*}, Abbas Shahid Sarang², Khalid Salah Shoubair³,
Ahmed Mujtaba Siddiqui⁴**^{1*} Orthopedic Resident, National Guard Hospital, Al Ahsa, Saudi Arabia, Email:² Orthopedic Resident, National Guard Hospital, Al Ahsa, Saudi Arabia³ Orthopedic Senior Registrar, National Guard Hospital, Al Ahsa, Saudi Arabia⁴ Orthopedic Consultant, National Guard Hospital, Al Ahsa, Saudi Arabia**Article Received:** May 2021**Accepted:** May 2021**Published:** June 2021**Abstract:**

Medial condyle humerus fractures are considered one of the rarest injuries in pediatric elbow fractures, accounting only 1-2%. Diagnosis is commonly missed, poor outcome usually associated with late presentation and delaying in management as described by many authors.

Here we are reporting a 13-year-old boy with right medial condyle humerus fracture as rare early presentation that treated with open reduction and percutaneous pinning.

Keywords: *medial condyle humerus, pediatric, early presentation*

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INTRODUCTION:

Distal humerus fractures are common in pediatric age group. However, medial condyle humerus fractures are very rare, accounting only 1-2% of pediatric elbow fractures (1-4). Kilfoyle made the classification for these fractures according to the degree of displacement into three types (6). The mechanism of injuries usually is a fall on outstretched hand with valgus force as suggested by many authors or fall on the point with flexed elbow (1, 5, 6). However, the decision of surgical management with open reduction internal fixation of medial condyle nondisplaced fracture is still controversial. poor outcome result suggested by several authors with missed diagnosis or late treatment with open reduction and percutaneous pinning (1, 2, 7, 8).

Here we report a rare case of acute presentation of medial condyle humerus fracture Kilfoyle type 3 (incarcerated fragment in the joint) treated with open

reduction and percutaneous pinning with 2 Kirschner wires or K-wires to achieve best outcome and to avoid late complications.

CASE REPORT:

A 13-year-old boy not to have any medical illness, presented to our service complaining of pain in his dominant right elbow. With history of fell down on his right elbow three hours prior the presentation. The pain was localized to medial aspect of right elbow, increasing with elbow movements and decrease by rest, associated with mild swelling. The child generally, look well-built, Stable afebrile. Local examination of right elbow, no open wound, abrasion, mild swelling at medial aspect of elbow and tenderness and decrease range of motion in flexion and extension due to pain, distal neurovascular intact. Right elbow x-ray revealed, fragmented medial condyle humerus fracture (Figure 1).

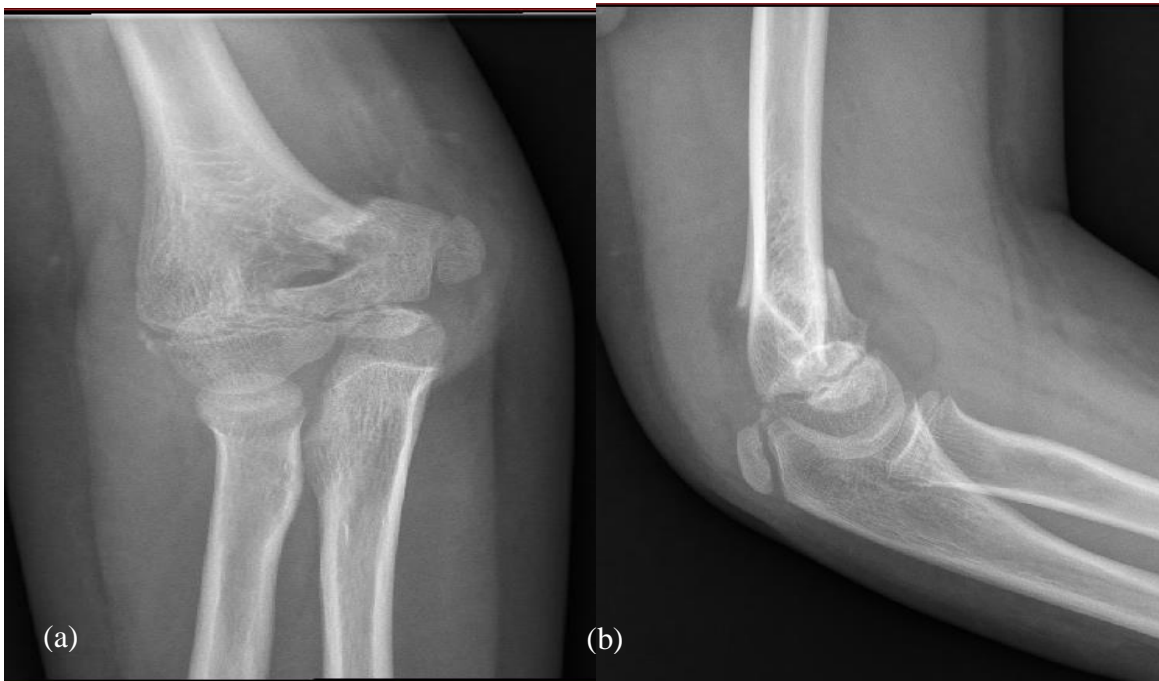


Figure 1: (a) Anteroposterior view and (b) lateral view of the right elbow showing medial condyle fracture at the initial visit.

After imaging, back slab above elbow was applied. Patient admitted and operated on the same day with open reduction and percutaneous pinning with 2 K-wires size 1.6, above elbow back slab was applied (Figure 2). Patient was evaluated next day for his distal neurovascular status and it was intact and discharged in stable condition.

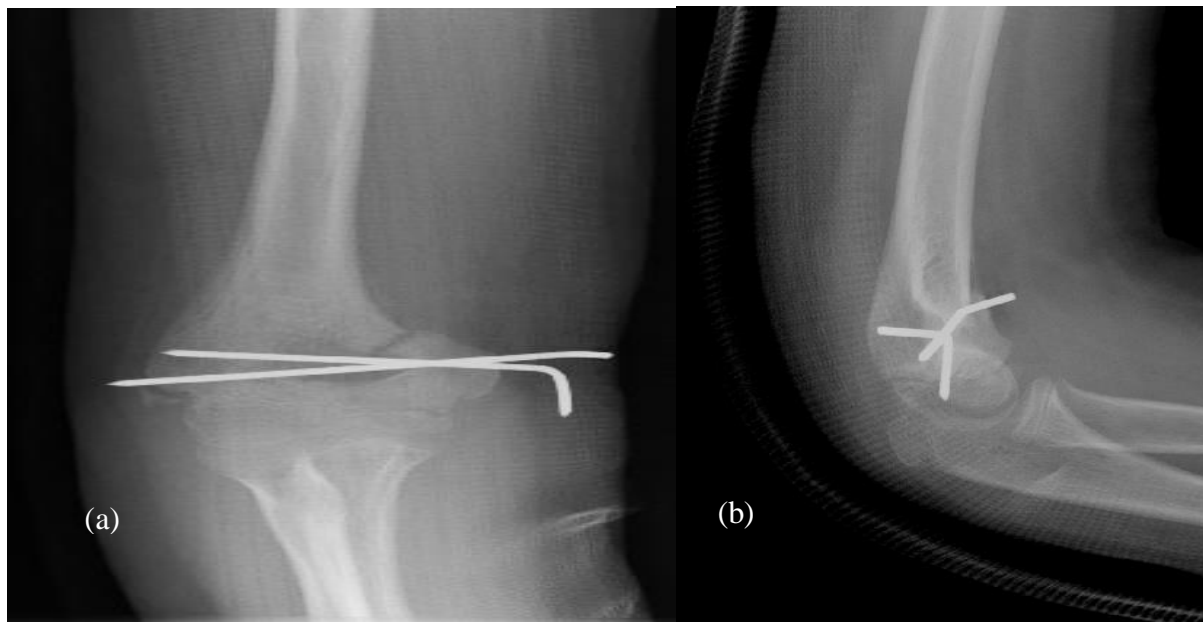


Figure 2: Postoperative (a) anteroposterior view and (b) lateral view showing bone fragment which was reduced and fixed with two smooth K-wires.

Follow up

On 1-week follow-up in the clinic, wound was healthy. The week after, wound healed and stitches were removed, and repeated x-ray revealed in-place K-wires. On 4-week visit, K-wires were removed after imaging which showed good callus formation (Figure 3).

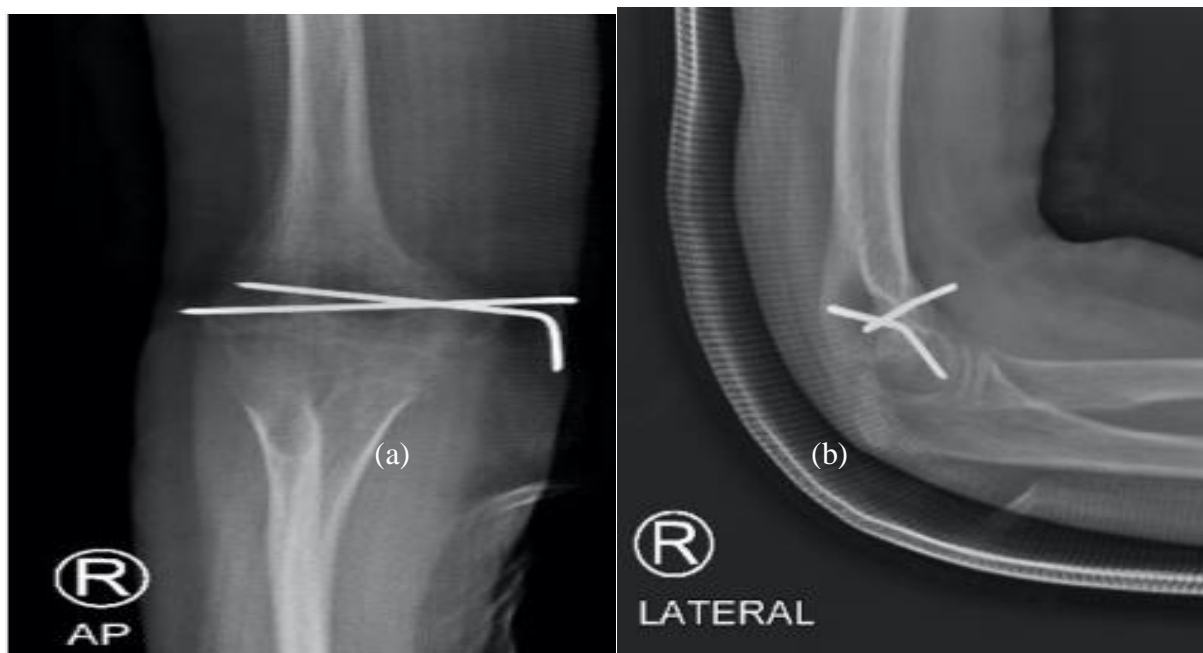


Figure 3: 4 weeks postoperative (a) anteroposterior view and (b) lateral view showing union of fractured medial condyle.

DISCUSSION:

Medial condyle humerus fracture is one of the rare fractures in pediatric population, accounting only 1-2% of pediatric elbow fractures, usually occur in age of 8-12 years old (4, 5). Two mechanisms of injury have been described in many literature reviews. The first description is direct force over the medial condyle of the humerus by the olecranon after fall down on flexed elbow (9). The other description is fall down on outstretched hand with valgus force resulting in an avulsion-type fracture due to stress at medial collateral ligament and flexor insertions (1, 5). Kilfoyle is the first who classified medial condyle humerus fracture into 3 types depending on the degree of displacement (6). He reported good result in completely displaced fractures if diagnosed and treated early. Papavasiliou reported excellent outcome in conservative management for non-displaced fracture in type 1 and 2 Kilfoyle (4). However, high chance of complications can happen in missed medial condyle humerus fracture such as limited range of motion, physeal arrest, deformity and delayed ulnar nerve palsy have been addressed (2, 4, 5, 10). Also, non-union complication has been reported in 7.4-33.3% by different authors when left untreated (1, 9, 11). There is a risk of avascular necrosis of trochlea and non-union upon treatment with open reduction with posterior condyle being stripped off (7). However, the ulnar nerve is at risk in closed percutaneous pinning (12).

CONCLUSION:

In summary, medial condyle humerus fractures are considered one of the rarest injuries in pediatric elbow fractures, Diagnosis is commonly missed resulting poor outcome with late presentation or delay in management as described by many authors. Here we are reporting a 13-year-old boy with right medial condyle humerus fracture as rare early presentation that treated with open reduction and percutaneous pinning.

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