

CASE REPORT

DISLOCATION OF THE ELBOW WITH INTRA-ARTICULAR ENTRAPMENT OF THE MEDIAL EPICONDYLE IN ADULTS REPORT OF TWO CASES

S. A. KHAN, M. ZAHID

Intra-articular entrapment of the medial epicondyle with dislocation of the elbow is a common injury pattern in childhood. The occurrence of this injury is extremely rare in adults. We present two cases of dislocation of the elbow with intra-articular inclusion of the medial epicondyle in adult patients. One case was treated by closed reduction and the other required open reduction. A brief review of the scanty literature on the subject is also presented. The case reports highlight the need for early diagnosis and management of these atypical cases in adults.

Keywords : elbow ; dislocation ; adults ; fracture ; medial epicondyle.

Mots-clés : coude ; luxation ; adulte ; fracture ; épicondyle médial.

INTRODUCTION

Intra-articular entrapment of the medial epicondyle in a dislocated elbow is a common injury in childhood. The fractured fragment includes the whole epiphysis shorn from the metaphysis by the traction of the medial collateral ligament. After fusion of the epiphyseal line, this injury pattern is extremely rare. We present here two such cases in adults. The scarcity of literature on the subject highlights the rarity of this injury in adults.

Case 1 : A 27-year-old male patient presented to the emergency room with a history of injury to the left elbow following a fall on the outstretched hand one hour earlier. On clinical examination the left elbow was found to be dislocated posterolaterally

with marked tenderness over the medial epicondylar region. There was no neurovascular involvement. There were no other apparent musculoskeletal injuries. An xray of the left elbow was done. The xray revealed a posterolateral dislocation of the elbow with an avulsed medial epicondyle, which was entrapped inside the dislocated elbow joint (fig. 1). The dislocation was reduced under general anesthesia. After reduction the elbow was put through a trial range of movement. When the elbow was extended it redislocated. Radiographs after another trial of reduction showed the medial epicondyle still lying in the elbow joint, with the reduction being incongruent.

Open reduction of the elbow was planned and the elbow joint opened through a medial incision. The fragment of the medial epicondyle was removed from the joint with a hook. It presented a cancellous surface, which corresponded to a defect of the inferior margin of the medial epicondyle. The fragment was reduced and fixed by two 1.5-mm K-wires. Repair of the medial collateral ligament was done and the wound closed over a suction drain. The follow-up xrays were found to be satisfactory (fig. 2). The elbow was immobilized in an

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Fig. 1. — Case 1 — xrays of the left elbow joint (AP and lateral views) showing the posterolateral dislocation of the elbow with an entrapped (arrow) medial epicondyle.

above-elbow plaster. After four weeks the plaster was removed and the patient advised to begin gentle elbow exercises. Prior to his last follow-up, 7 months after the operation, the patient had regained full range of elbow motion with no pain or disability.

Case 2 : A 40-year-old female presented to the emergency room with injury to the left elbow joint following a fall on the outstretched hand. On clinical examination the elbow was found to be dislocated posterolaterally with no apparent neurovascular injury. An xray of the elbow revealed a posterolateral dislocation with an entrapped intra-articular medial epicondylar fragment (fig. 3). Under general anesthesia a valgus strain was placed on the elbow joint (so as to free the medial epicondyle from within the joint) and reduction of the elbow done by Parvin's (2) method of closed reduction. The medial epicondyle was felt to have snapped back in its position. The elbow was put through a trial range of movements and the reduction of the elbow was found to be satisfactory. A repeat xray of the elbow showed a satisfactory reduction with the medial epicondylar fragment lying in its bed (fig. 4). The elbow was immobilized in an above-elbow plaster for four weeks, followed by gentle elbow physiotherapy. The patient was followed for one year after reduction ; she had



Fig. 2. — Case 1 - Postoperative xrays (AP and lateral views) showing the reduced elbow joint with the medial epicondyle fixed by two K-wires.

full elbow movements except for a terminal extension block of about 5°.

DISCUSSION

An entrapped medial epicondyle with a posterior dislocation of the elbow joint is a classic injury of the pediatric age group. Patric (3) has stated that the age group for this injury is 10 to 17 years. The occurrence of this form of injury is rare in adults and not many case reports are found in the literature.

In a review of 143 cases of medial epicondyle fractures at a hospital in New York, Smith (6) saw only five adults with this atypical injury combination. The mechanism of injury in his cases was direct trauma to the elbow in one case and a fall on the outstretched hand in the remaining four. He found an associated fracture of the radial head in two cases.

Purser (4) has reported two cases of posterolateral dislocation of the elbow with intra-articular inclusion of the medial epicondyle. In one of his cases, an old nonunited fracture of the medial epicondyle was found to be the cause for the entrapment. He found that in cases of posterolateral dislocation of the elbow if the medial epicondyle is incarcerated in the joint, only a small range of



Fig. 3. — Case 2 - Prereduction x-rays of the left elbow joint (AP and lateral views) showing the posterolateral dislocation of the elbow with an intra-articular medial epicondyle (arrows).



Fig. 4. — Case 2 - Postreduction x-rays of the left elbow joint (AP and lateral views) showing the reduced elbow joint. The medial epicondyle has come to lie in an acceptable position.

passive elbow movements is possible on the table after reduction and flexion is blocked ; as the elbow is extended progressive deformity develops and redislocation occurs. This was true for one of our cases as well.

In a series of four cases (5), one patient was an adult. The author fails to mention categorically that the fragment was included when the elbow joint was reduced by surgery. Linschield and Wheeler (1) are of the opinion that open reduction is a must in these cases. They report open reduction in two adult patients with this injury complex.

We feel that this injury combination is rarely seen in adults as the fusion of the medial epicondylar physis prevents shearing of the epiphysis from the metaphysis which occurs very easily in children following traction by the medial collateral ligament.

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SAMENVATTING

S. A. KHAN, M. ZAHID. Elleboogluxatie met insluiting van de mediale epicondylus bij de volwassene : twee gevallen..

Bij het kind is de intra-articulaire inclusie van de mediale epicondylus bij elleboogluxatie goed gekend. Bij volwassenen is dit een uiterst zeldzame associatie. De auteurs beschrijven twee gevallen. Het eerste geval kon worden gesloten gereduceerd, in het tweede was een open reductie nodig. De literatuur wordt overlopen. Het belang van de vroegtijdige diagnose van dit atypisch en zeldzaam letsel en van een aangepaste behandeling wordt benadrukt.

RÉSUMÉ

S. A. KHAN, M. ZAHID. Luxation du coude avec incarceration de l'épicondyle médial chez l'adulte : présentation de deux cas.

L'incarcération de l'épicondyle médial au cours d'une luxation du coude est un phénomène bien connu chez l'enfant ; elle est extrêmement rare chez l'adulte. Les auteurs présentent deux cas de luxation du coude chez des adultes, avec incarceration intra-articulaire de l'épicondyle médial. Le premier a été traité par réduction à foyer fermé ; le second a nécessité une réduction sanglante. Les auteurs passent en revue les données de la littérature, qui sont assez minces sur ce sujet. Ils insistent sur l'importance d'un diagnostic précoce et d'un traitement approprié pour ces cas inhabituels à l'âge adulte.