

Untreated Displaced Fracture of Medial Humeral Condyle in a Child : Case Report

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ABSTRACT

A 13-year old boy fell on his outstretched left arm, resulting in pain at the elbow with swelling and a limited range of motion. Roentgenograms showed a displaced fracture of the medial humeral condyle. The patient refused any treatment. Eight months later he returned with malunion and cubitus varus. A physical examination showed there was varus laxity of the left elbow but there was no disability or impairment of daily living. In this case the outcome seemed to be better than the results of delayed surgical treatment reported in the literature. However, early diagnosis, accurate reduction and internal fixation are very important for treating this fracture.

INTRODUCTION

Fractures of the medial humeral condyle in children are uncommon. Milch reported that this type of fracture represents only 0.7% of all elbow fractures in children¹. Most displaced fractures show good response to therapy with open reduction and internal fixation^{2,3,4,5}. Untreated displaced fractures are quite rare, and delayed open reduction and internal fixation had reported poor results². In this case, we report an untreated displaced

fracture which healed in the malunion position - leaving, however, no loss of activity or limitations to daily living.

Case Report

A 13-year old boy fell on his outstretched left arm, but waited two weeks before coming to the hospital. He had pain, swelling on the left medial humeral condyle, and a limited range of motion. Circulation, sensation and motor function of the hand were intact. Roentgenograms revealed a markedly displaced medial humeral condyle (Fig 1). His parents refused treatment at the hospital, but later consulted a village bonesetter. Eight months later the boy returned to the hospital with cubitus varus. His elbow could flex and fully extend without pain, although roentgenograms showed malunion of the medial humeral condyle and cubitus varus (Fig 2). There was laxity on the varus stress test but his daily living was not noticeably limited (Fig 3).

DISCUSSION

Fractures involving the medial condylar physis often occur after the ossification centers begin to appear. In the literature, this is reported as 8-14 years of age¹. The mechanism of injury in the reported patient here was falling on the outstretched arm with the elbow extended



Fig. 1. Left elbow radiographs at first consultation. Anteroposterior and lateral radiographs demonstrate rotated and displaced fracture of medial condyle.

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and wrist dorsiflexed, causing the medial condyle to be avulsed.

According to the Kilfoyle classification⁴, this would be a Type III fracture, in which the condylar fragment is both rotated and displaced. Open reduction and internal fixation is the most popular treatment^{2,3,4,5}.

Fowles and Kassab² have reported the loss of motion

and poor results in delayed open reduction and internal fixation of displaced fractures. Because of derotation reduction of the fragment usually interrupted blood supply to epiphyseal fragment^{2,3,5}. Surgery was recommended in selected patients where correction could be achieved and avascular necrosis avoided. In this case, the displaced fracture was untreated. The patient did not have significant disability but he had varus laxity and cubitus varus which needed surgical correction. Because of progressive cubitus varus, it can be

anticipated that the deformity will worsen, and the patient may have symptom with labor activities¹.

For this type of injury, early diagnosis, accurate reduction and internal fixation gives the best result. However, in delayed treatment, avascular necrosis cannot be avoided. Supracondylar osteotomy without open reduction of fracture is the treatment of choice. Education and health promotion must be promoted if such complications are to be avoided.



Fig. 2. Left elbow radiographs 8 months later: Anteroposterior and lateral radiographs showing malunion of medial condyle.



Fig. 3. Although the patient developed malunion of medial condyle, he could move his left elbow full range of motion and his labor activities were not limited.

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