

Pure Lateral Traumatic Dislocation of Elbow Joint: A Case Report

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Abstract

Pure lateral elbow dislocation is rare and a successful closed reduction is difficult, because of swelling and nature of injury itself. Very few cases have been reported in the literature. A pure lateral dislocation of elbow joint can be reduced with conventional methods (like in this case, longitudinal traction and valgus force at elbow), under short general anaesthesia.

Introduction

Pure lateral dislocation of elbow is rare [1]. Reduction of pure lateral dislocation is very difficult without any anaesthesia or muscle relaxation. The success rate of closed reduction is also very low, most of the times it requires open reduction. The elbow dislocation of the case we are presenting here was irreducible by conventional method in casualty, so we decided to go for manipulation and closed reduction under short general anaesthesia to successfully reduce it.

Case presentation

A 15yr old, right hand dominant, boy sustained a direct injury to his left elbow while wrestling; he lost his balance and fell on his left elbow, with left elbow in flexion and complete body weight on the same limb. He presented with a swollen and deformed left elbow joint. It was held in 60° flexion at elbow and forearm in pronation. Distal circulation and motor functions were intact. His radiographs revealed a true lateral displacement of the left radius and ulna in relation to the humerus. The olecranon was in contact with lateral condyle without evidence of posterior displacement in lateral view. However the anatomical relationship of the radius and ulna was maintained, and a small bony fragment, probably from the medial condyle was seen in the joint space.

A closed reduction was attempted using conventional methods, under sedation but proved unsuccessful. Then, manipulation and closed reduction was done under short general anaesthesia, the elbow was first disimpacted by

applying longitudinal traction on the forearm with counter traction on the arm. It was then relocated applying gentle medial pressure on the olecranon. Valgus and varus instability of the elbow was checked in full extension and 30° flexion. There was full flexion and extension possible of the left elbow on table.

The elbow was then immobilised with above elbow plaster slab in 90° flexion. Radiographs confirmed the satisfactory reduction with normal joint congruity with fractured fragment in the joint on medial side. The patient was then followed once in two weeks and his plaster was removed at the end of 6 weeks. His elbow was stressed to check the medial and lateral ligamentous instability. Nothing untoward was found, but he was started on an intensive physiotherapy regime. He subsequently regained near normal and functional range of elbow movements even in presence of a bony fragment in the joint, he was able to flex and extend the elbow without pain and any crepitus or creeping sound. Extension lag of 100° is present. He has already resumed his wrestling activities without pain and disability. Excision of the loose fragment is already advised to the patient in view of post traumatic osteoarthritis in future.

Discussion

Pure lateral dislocation of elbow is rare and very few cases are reported. The reduction manouevre too differ for these injuries. For a commoner posterior dislocation various techniques are described. Levine² described reduction of an elbow dislocation by seating the patient in a chair, with the arm dangling over the back of the chair. This however required cooperation of the patient, which can be difficult in certain cases. Different variation of prone positioning and gravity assisted traction has been used by various authors [3,4,5]. The same principle should theoretically apply to simple lateral dislocations of the elbow [6]. However, reduction can be impended by fractured articular fragment or interposed muscle. Exrchou [7] reported interposition of the anconeus muscle preventing

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Fig.1 Anteroposterior and lateral view showing pure lateral elbow dislocation.



Fig.2 Anteroposterior and lateral view showing anatomical reduction of pure lateral elbow dislocation.



Fig.3 Extension lag 10 degrees and Full flexion possible after closed reduction. (8months).

relocation. Vaidya [8] has documented the brachialis muscle and coronoid chip fracture to be preventing reduction in his case. Both these cases require open reduction and stabilisation. In our case we used direct longitudinal traction on the limb under short anaesthesia. We also pushed on the olecranon and guided it into normal position. This achieved good result in our case at final follow up.

Conclusion

A pure lateral dislocation of elbow joint can be reduced with conventional methods (like in this case, longitudinal traction and valgus force at elbow), under short general anaesthesia, probably due to better patient compliance and muscle relaxation. If this method fails then the other methods like Stimson method can be used for closed reduction, provided patient is unfit for short general

anaesthesia.

References

1. Khan SK, Chopra R, Chakravarty D. Successful closed manipulation of a pure lateral traumatic dislocation of the elbow joint using a modified Stimson's technique: a case report. *J Med Case Rep.* 2008 May 22;2:170.
2. Levine LS. A simple method of reducing dislocations of elbow joint. *JBJS* 1953;35A:785.
3. Parwin RW: Closed reduction of common shoulder and elbow dislocations without anaesthesia. *AMA Arch Surg* 1957, 75:972.
4. Meyn MA, Quigley TB: Reduction of posterior dislocation of the elbow by traction on the dangling arm. *Clin Orthop Rel Res* 1974;106-108.
5. Minford EJ, Beattie TF: Hanging arm method for reduction of dislocated elbow. *J Emerg Med* 1993, 11:161-162.
6. Vijaya S. Lateral dislocation of elbow joint. *Singapore Med J.* 1966;7:139-141.
7. Exarchou EJ. Lateral dislocation of elbow joint. *Acta Orthop Scand.* 1977;48:161-163.
8. Vaidya SV. Irreducible lateral dislocation of elbow. *J Postgradmed;* 1997;43:19-20.

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