



CLOSED REDUCTION OF A LATERAL ELBOW DISLOCATION: A CASE REPORT

Orthopaedics

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ABSTRACT

In this case report, we present a case of lateral elbow dislocation treated with closed reduction. Lateral elbow dislocation is rare, and a closed reduction is reported with even less frequency. The reduction can be hindered by swelling and soft tissue interposition, and we describe the use of a nonoperative reduction technique with early physiotherapy to avoid joint stiffness. No additional complication was observed, and the normal range of elbow movement and function was obtained by early physiotherapy.

KEYWORDS

Lateral elbow dislocation, closed reduction, physiotherapy, elbow.

INTRODUCTION

Elbow dislocation is a common injury, and posterior dislocation, specifically, is a frequent form. Simple lateral elbow dislocation is rare and often associated with neurovascular issues with difficulty in performing closed reduction¹. Reduction can be hindered by swelling and soft tissue interposition. In this rare case of lateral dislocation treated with closed reduction, we describe the use of a nonoperative reduction technique and early physiotherapy to avoid joint stiffness.

CASE REPORT

A 58-year-old woman fell on her right side with her right elbow flexed while carrying her luggage. She presented with a flexed elbow and the hand placed on her abdomen. The neurologic examination was normal. The radial pulse was palpable. Anteroposterior and lateral radiographs of the elbow showed lateral convergent displacement of the radius and ulna relative to the humerus without fracture signs (Figure 1a and 1b).



Figure 1a and 1b: Anteroposterior and lateral radiographs of the elbow revealed lateral convergent displacement of the radius and ulna relative to the humerus without fracture signs.

Upon diagnosis of lateral elbow dislocation, we attempted closed reduction. We applied longitudinal traction on the axis in the stretched position while checking anteroposterior images of the elbow. We distracted her wrist distally and moved the dislocated proximal forearm medially and gently pushed the radial head with the elbow flexed and we heard a click to indicate full reduction. Post-reduction radiographs were obtained without signs of fracture (Figure 2a and

2b). Re-dislocation was not observed in the range of motion from 30-90 degrees.

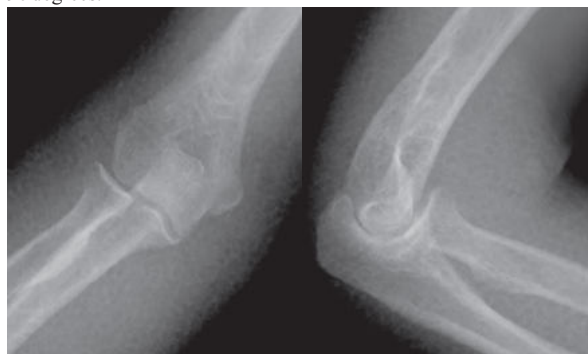


Figure 2a and 2b: Post reduction radiographs revealed no fractures.

The elbow joint was immobilized at 90 degrees of flexion with the forearm in supination in a posterior plaster cast for 3 weeks. The plaster was removed 3 weeks after the trauma. Mild physiotherapy started at 3 weeks after the trauma and the elbow was examined weekly. After 8 weeks, the elbow range of motion was normal.

Radiographs revealed mild calcification around the anterior articular capsule, Medial Collateral ligament and Lateral collateral ligament; however, the patient did not complain of elbow pain (Figure 3).

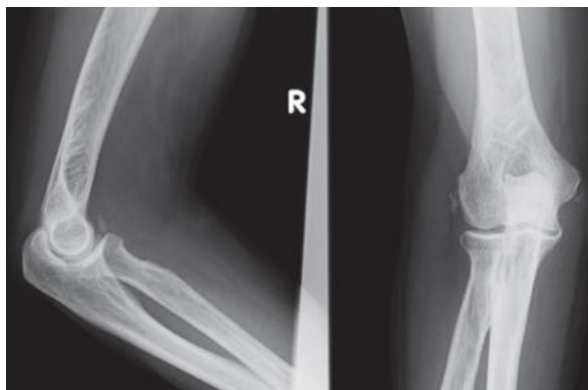


Figure 3: Eight weeks after the trauma, radiographs revealed mild calcification around the anterior articular capsule, medial collateral ligament, and lateral collateral ligament.

DISCUSSION

The reduction of pure lateral elbow dislocation is known to be difficult owing to high risk of incarceration such as swelling, soft tissue interposition such as anconeus muscle, brachialis muscle, ulnar nerve, or associated fractures^{2,3}. Several reduction manoeuvres for pure lateral traumatic dislocation of the elbow have been reported. Modification of the gravity-aided "hanging arm" technique originally described for shoulder dislocations by Stimson (modified Stimson's

technique⁴) and longitudinal traction on the axis in the semi flexed position, without forcing the elbow in extension⁶, is reported as a reducing manoeuvre. In this case, reduction verified by the image intensifier suggests that this is a reliable method.

Even if obvious varus or valgus instability of the joint was observed, re-dislocation was not observed in flexion and extension indicating that simple lateral dislocation of the elbow joint can be treated without surgical treatment^{2,4,5}. Physiotherapy started 3 weeks after trauma allowing patients to regain the normal range of elbow movements. Prolonged immobilization of the elbow joint after elbow dislocation is not recommended.

CONCLUSION

Lateral dislocation of the elbow joint is rare and its closed reduction is even rarer. Testing the stability is important for early physiotherapy to avoid joint stiffness. Excellent functional outcomes can be achieved even if followed by nonoperative therapy.

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