



Neglected Dislocation of Posterior Elbow Treatment : A Case Report

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Abstract: The elbow joint is one of the most frequently dislocated joints, with an annual incidence of dislocation is 6.1 per 100,000 populations. Patients with persistent instability of post complex elbow fracture-dislocations felt pain, decreased functional ROM, and increased early-onset osteoarthritis. Appropriate early assessment and management of traumatic elbow instability is crucial to reduce the complications. A female, 57 years, came with complaints that her right elbow could not be flexion after a traffic accident eight months ago. The physical examination found that the joint was deformed and swollen with pain. The joint ROM on the affected elbow extension was only 0° - 40°. It could be evaluated for the absence of elbow dislocation and obtained a screw as a stabilizer on the lateral collateral ligament. The LUCL, MCL, triceps, and elbow repositioning were reconstructed then immobilized with a backslab. In this neglected case of posterior dislocation of elbow, after ligament reconstruction (LUCL & MCL) and post-op rehabilitation, the ROM of flexion, supination and pronation of the elbow was 90°, 90° and 80° so that the patient could perform daily living activities.

Keywords: Claw hand, Tendon transfer, Leprosy

I. INTRODUCTION

The elbow joint is one of the main joints in the body that is most frequently dislocated, with an incidence of 6.1 dislocations per year per 100,000 population. Elbow dislocation accounts for 10-25% of all elbow injuries and approximately 6.8% of all fractures or fractures dislocation[1]. In general, elbow dislocations without periarticular fractures can be treated with acute close reduction[2]. However, dislocations with intraarticular loose bodies or periarticular fractures may affect maintaining stability after joint reduction[3]. In some cases, the elbow joint that remains unstable after close reduction requires surgical intervention in the acute or semi-acute setting.

The outcome of elbow dislocation is mostly satisfactory, but the incidence of residual pain and elbow stiffness after it is quite common. Anawke et al. reported residual stiffness in 56% of patients with simple elbow dislocation⁴. Papandrea et al. found that patients with persistent instability post-complex elbow fracture-dislocations were more likely to present with complaints of pain, decreased to a loss of functional ROM, and increased early-onset osteoarthritis⁵. Heterotopic ossification, the formation of abnormal ossification in the periarticular soft tissues leading to decreased ROM, is another complication of traumatic elbow instability. Factors associated with an increased risk of heterotopic ossification include ulnohumeral dislocation, delay in dislocation management, increased surgical rates, and burn injury[4].

Early assessment and management of traumatic elbow instability are essential to reduce complications. As well as management in restoring movement (ROM) and muscle performance in the dislocated elbow, can support soft tissue healing and prevent joint contracture.

2. CASE REPORT

The case in this report is a 57-year-old woman with complaints that her right elbow cannot be bent since an accident eight months ago. The control patient went to the Orthopedic polyclinic of RSUD Dr. Soetomo and examination on the right elbow. The inspection showed deformity and swelling accompanied by tenderness on palpation and limited range of movement in elbow flexion (0° - 40°). In the gripping position, the strength is weak, while others are within normal limits. On the radiological picture, it appears that there is a posterior dislocation of the right elbow joint.



Figure 1. Clinical presentation preoperative



Figure 2. Preoperative X-ray

Then the LUCL, MCL, triceps, and elbow repositioning were reconstructed and evaluated on the 14th, 28th, and 42nd postoperative days, by treating the wound and keeping the elbow from being fully extended using a backslab. The radiological examination was in the form of plain x-rays in the anteroposterior position of the elbow on the first postoperative day (Figure 4). Radiologically it can be evaluated for the absence of elbow dislocation, and a screw is obtained as a stabilizer for the lateral collateral ligament.



Figure 3. Clinical condition four months postoperative

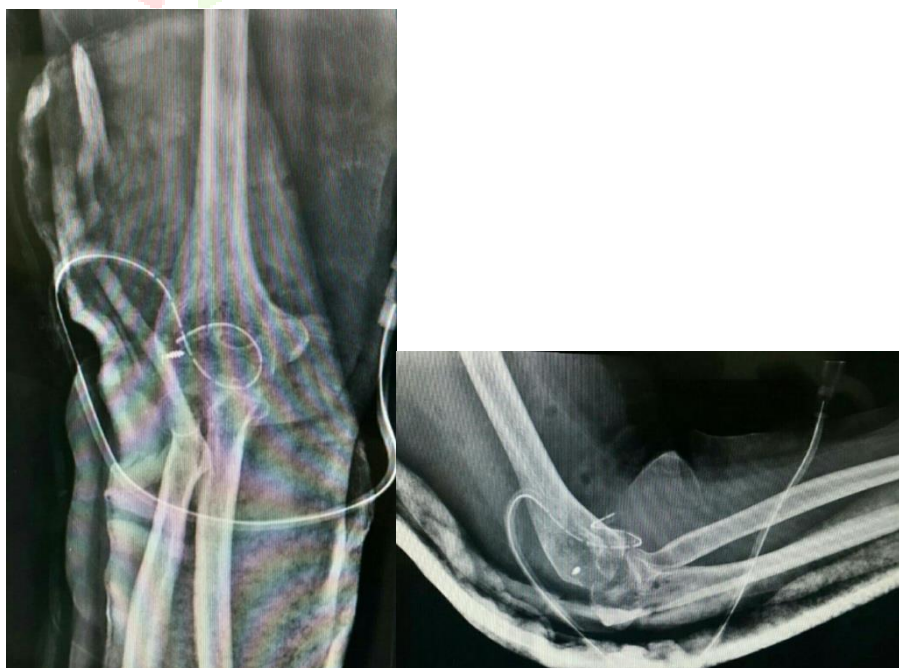


Figure 4. Postoperative X-ray

3. DISCUSSION

Posterior elbow dislocation by experts is said to occur due to a combination of valgus, supination or external rotation of the forearm, and axial loads through the elbow joint. This mechanism causes a posterolateral rotation of the forearm relative to the humerus and eventually causes a posterior dislocation of the radius and ulna so that the coronoid position is posterior to the trochlea. More recent studies have shown that a combination of varus, external rotation of the forearm, and axial load through the elbow joint causes posterior dislocation. Another major cause of posterior dislocation is hyperextension of the elbow joints[6]

In this case, a lateral approach incision, excision of fibrotic tissue, open reduction (with 90° elbow flexion position with distal traction and counter traction on the arm), harvesting of the palmaris longus tendon, reconstruction of the medial collateral ligament with a medial approach and using the palmaris longus tendon were performed. We were anchoring lateral collateral ligament with anchoring screw with Ø 2.7 mm[7]. Then, an intra-articular narcotic injection was performed. After repositioning and repairing the ligaments, the patient's hand was positioned forearm supination and elbow extended with a supported backslab. Some of the complications that often occur are elbow stiffness associated with prolonged immobilization[8]. Another complication is heterotopic ossification, which can occur between the brachialis and the capsule or between the triceps and the capsule, causing a significant decrease in ROM. We should consider giving indomethacin injection or radiotherapy. Persistent instability can occur in cases of the terrible triad, which can develop into post-traumatic arthritis over time[9].

In this case, the ROM of the patient's elbow reaches 90°, the ROM for the forearm supination is 90°, and the ROM for the forearm pronation is 80° (figure 5) so the patient can undergo activities of daily living (ADL).



Figure 5. Forearm supination, forearm pronation, and elbow flexion took on 11 August 2017, each position 90°, 80° dan 90°

4. CONCLUSION

The purpose of operative therapy in this case is to restore elbow function by restoring joint movement so as to assist the patient in carrying out the Activity of Daily Living, support soft tissue healing, restore and maintain joint stability by reconstructing ligaments (LUCL & MCL). Postoperative rehabilitation programs must be carried out and monitored closely to prevent postoperative complications such as joint stiffness and heterotopic ossification.

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