

# Luxatio Erecta (A Report Of Three Cases)

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**ABSTRACT:-** The inferior dislocation of the shoulder is rare injury that concerns only 1.01 % of shoulder dislocations of our research . The purpose is to broaden the knowledge about information and to determine the actual incidence rate .We report three cases of pure luxatio erecta seen at emergency service of IBN SINA hospital, collected between 2010 and 2011. We had two men and one woman whose average age was 44 years. The right shoulder was dislocated in two cases. The dislocation was unilateral and the indirect mechanism in all cases was reported: fall from a considerable height on the upper limb in great abduction or antepulsion. All cases presented with the typical attitude of liberty statue; arm in hyper abduction. The diagnosis was clinical and confirmed by radiography picture Treatment consists of a reduction in emergency under general anesthesia, a good immobilization and early re-education to promote good progress. No complications were reported after twenty two months. The functional long term prognosis is excellent. In all cases, the rehabilitation was full and six months after the injury they were returned to full activity.

**Keywords:** Dislocation; Shoulder; Erecta

## Introduction

The Inferior dislocation of humeri is a rare type of shoulder dislocation. It represents 0.5% of shoulder dislocations (1). This rarity has been described in 1859 by Middeldorpf and confirmed in the literature(2),(3). It affects young adults whose average age is 44 years. The clinical diagnosis is easy, the arm in hyperabduction, unable to lower, with severe pain. The glenoid fossa is empty and the humeral head is palpated inferior in the rib cage. The anteroposterior radiograph revealed an inferior dislocation: the shaft of humerus was parallel the spine of the scapula and the humeral head be found against rib cage. The treatment consists of a reduction in emergency under general anesthesia to do a traction on arm is first applied up gradually, as the arm is brought into the axis of the limb and placed beside the patient followed by a Dujarier's bandage for three weeks. The functional long term prognosis is excellent after physiotherapy.

## OBSERVATIONS:

### 1°Observation:

A 36 year young male presented to the emergency department after falling from the second floor, his right arm was hanging from the scaffolding. He had no prior history of shoulder injury, with pain and inability to lower his right arm. The clinical examination found the patient awake and oriented the right arm in the air (figure1), no skin wound, he had pain after attempting to lower the arm. His humeral head was palpated inferior to the glenoid fossa, neurological and vascular control was normal. Anteroposterior radiograph of the right shoulder revealed an inferior glenohumeral dislocation, humeral head below it, pressed against the rib cage, humerus in hyper abduction (figure 2) The patient underwent an emergency reduction under general anesthesia.

The radiograph post reduction was normal (figure 3). The arm was immobilized elbow to body for three weeks. The patient received a passive and active reeducation. After six months of follow up, we observed that the patient had a good shoulder function, and there was any recurrence (figure.4)

### 2°Observation:

A 42 year young male has suffered a fall from a height of about 8 meters high with his right hand hanging out the window. He denied any loss of consciousness or any complaints except the right shoulder pain and functional disability of the member. Clinical examination revealed right arm in the air, no skin incision, the glenoid fossa is empty and the humeral head is palpable on chest wall. Severe pain in the mobilization of right shoulder. No neurological and vascular injuries were noted. The anteroposterior of the right shoulder shows a dislocation of the humeral head, while the humerus is in hyper abduction (figure 2) The patient benefits in emergency orthopedic reduction under general anesthesia ,the anteroposterior radiograph post reduction was normal (figure 3) and bandaged elbow to the body. The rehabilitation was full after reeducation and he was returned to full activity (figure 4).

### 3°Observation:

A woman of 54 years, was victim of a road accident falling on the left hand causing pain and total impotence of the member. Clinical examination found the left arm of the injured person in the air aspect (figure 1). Neurological and vascular examination were normal. Painful intensity went trying to move his shoulder. Anteposterior radiographic of the left shoulder shows the humeral head is pressed against the rib cage and the humerus is in the air (figure 2). The reduction was made in emergency under general anesthesia and immobilized elbow to body for three weeks associated to physiotherapy. After six months she was returned to full activity

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**Image 1: Clinical appearance of luxatio erecta**



**Image 2: Anteroposterior radiograph of luxatio erecta (observation 1)**



**Image 3: The radiograph post reduction.**



**Image 4: Shoulder appearance after six months. Any amyotrophy of all**

## Discussion :

Luxatio erecta is rare variety of shoulder dislocations, it concerns 0.5% (1),(3). On our series , We has observed only three cases of luxatio erecta on 297 patients of shoulder dislocation treated during the period from January 2010 to December 2011.It represented 1.01%.The inferior dislocation was unilateral in all cases but Elsayed (4) described bilateral form. There is two mechanisms of inferior dislocation The mechanism in all three cases is indirect and results from a hyper abduction combined with external rotation (3), (4) The direct mechanism involves a change of the axial member of the upper level that is fully abducted and the humeral head out of the capsule between the glenohumeral ligament with upper and lower rupture of the rotator cuff (5) There is a weak point of the capsule glenohumeral ligament between the top and bottom that meets the glenoid notch and the foramen of Rouviere form that lets out the humeral head during dislocation. Glenoid-humeral articulation allows only amplitude of 45 ° of abduct during a fall on the palm of the hand with abduction and elbow when the hand is forced into a hyper abduction or beyond its limits, the greater tuberosity abuts the upper pole of the glenoid promotes the release of the humeral head in front, below the glenoid cavity, pressed against the rib grille while the humerus remains hyper abduction of the arm giving the appearance of statue of Liberty. No fractures or neurological and vascular injuries were noted.

Some cases are often accompanied by lesions such as:

- Fracture of the greater tuberosity (6), (7)
- Rupture of the rotator cuff in (8)
- Neurological lesions of the brachial plexus (9)and axillary nerve in 60% of cases (10) and other nerves: musculocutaneous, radial, median and ulnar can be achieved (11)
- Vascular lesions on the brachial artery and axillary vein are rare 3.3%(8)
- Fractures of the parcel anteroinferior border of the glenoid and
- Avulsion capsular ligament of the lower pole glain(12)

The clinical features of the dislocations erecta: the upper limb elevated giving the appearance of the hand of the Statue of Liberty, the humeral head under the coracoid process or in the glenoid and palpated on the chest wall. The reduction is recommended in emergency by all authors, it is realized in the operating room under general anesthesia by the maneuver orthopedic traction progressive arm up first, then the arm is brought into the axis of the limb and placed beside the patient (13). During reduction, the inferior dislocation may be converted to an anterior shoulder dislocation (14). After orthopedic reduction,non incoercibility or instability of dislocation were observed. The member will be locked elbow to the body at 90 ° in Dujarier's bandage for 3 weeks. Reeducation will be both static and dynamic: Static during the immobilization rehabilitation must begin with isotonic contractions of the deltoid, Dynamic to continue rehabilitation after immobilization.At the end of 22 months after injury ,no recurrent dislocation or stiffness articular were noted and any atrophy in the all muscles of scapula(figure 4)

## Conclusion

Luxatio erecta is a rare variety of shoulder dislocations. The clinical diagnosis is easy and confirmed by radiography picture. No vascular or neurological injuries or fractures were noted in our series. In all patients the rehabilitation was full and six months after the injury, they were returned to full activity. The functional long-term prognosis is excellent.

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