Luxatio Erecta: A Rare Case of Inferior Dislocation of the Shoulder

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Luxatio Erecta: A Rare Case of Inferior Dislocation of the Shoulder

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Abstract

Luxatio erecta humeri is an uncommon form of glenohumeral dislocation, resulting in the inferior displacement of the humeral head. The inferior dislocation of the shoulder is a rare injury that concerns only 0.5% of the total number of shoulder dislocations. Treatment with traction-counter traction techniques is usually successful in reduction of the humeral head. These cases maybe complicated by neurological deficits due to traction injury to the brachial plexus. We present such a case; there was axillary neuropraxia which was transient and the patient eventually made a full recovery.

Introduction

Trauma to the shoulder can result in injuries ranging from rotator cuff strain and glenohumeral subluxation to proximal humerus fractures and joint dislocations. The most common direction for traumatic shoulder dislocations is anterior, however, luxatio erecta may rarely occur.[1,2] The incidence of luxatio erecta, or inferior shoulder dislocation, is less than 1% of all shoulder dislocations, but it has a classical history and presentation with the shoulder in abduction, the elbow flexed and the forearm held behind the head. Luxatio, as with any traumatic shoulder dislocations, requires a closed reduction under sedation or anesthesia in order to obtain alignment and avoid complications. We report a similar case where a fall from a tree, with the person desperately clinging to a branch which broke off landed him in luxatio erecta humeri.

Case Report(s)

A 35 year old farmer was plucking walnuts from a tree in his orchard when he suddenly lost his balance and fell down. He tried to grab on to the nearest branch to save himself but the branch could not bear his weight and broke off while the farmer was suspended from it by his right arm. He felt a jerk in his shoulder and sudden pain and could not lower his arm. He had minor bruises on his legs but was otherwise alright. On examination, his right upper extremity was abducted at the right shoulder, flexed at the elbow, with his right hand resting against his temple, classical position for an inferior shoulder dislocation. His humeral head could be palpated easily inferior to the glenoid fossa, abutting the lateral chest wall in the inferior axilla. His radial pulse was normal. Motor function was intact and sensory function showed regimental badge anesthesia suggestive of axillary nerve injury. Any attempt at movement of the right shoulder caused severe pain. Radiographs revealed an inferior glenohumeral dislocation (Fig1, 2). The shaft of the humerus was parallel to the spine of the scapula. No fractures were noted. Closed reduction was successfully done under general anesthesia by traction on the right upper limb and counter traction of the trunk, with mild adduction. The shoulder was immobilized in an immobilizer for three weeks followed by physiotherapy. The patient has since returned to his usual physical activity. There is no residual neurodeficit.

Discussion

Luxatio erecta is a rare injury occurring in less than 1% of all shoulder dislocations with no age predilection.[1-3] Two mechanisms of injury are known to exist. The first one, less commonly seen, is a direct loading force on a fully abducted arm, with elbow extended and forearm pronated. The second and more common mechanism is a sudden, forceful hyperabduction of an abducted extremity, causing inferior displacement of the humeral head, usually producing a rupture of the inferior glenohumeral capsule and disruption of the rotator cuff. [4-6] Clinically, such a patient presents with an abducted extremity and inability to lower it. The elbow is flexed and the forearm pronated. The hand is often resting on or next to the head. The glenoid fossa is empty and the humeral head is often palpable on the lateral chest wall.[3,7,8] Secondary injuries are usually neurovascular in nature, including impingement of the axillary artery and/or brachial plexus. Rarely, vascular injuries of the brachial artery may be seen. Soft tissue injury of the part is more frequent. Radiology reveals a humeral head dislocated inferior to the glenoid fossa and the humeral shaft lying parallel to the scapular spine. The exact location of the humeral head is variable, particularly on anterior-posterior radiographs. The humeral head can
be found at or beneath the glenoid rim and against the rib cage at the third or fourth intercostal space.
The true distinguishing feature of luxatio erecta is the abducted position of the humeral shaft parallel to the spine of the scapula. [2,6] While the clinical picture is considered pathognomonic, a missed case of luxatio erecta has been reported [7] An atypical clinical picture, where the arm was not fully abducted over the patient’s head, misled the involved physician, thus emphasizing the importance of full roentgenogram evaluation.

Closed reduction is done under adequate sedation and analgesia by upward and outward traction in-line with the humerus while counter traction is applied across the acromion. After the humeral head is reduced, the arm should easily adduct in an arc back toward the body. [3,4,9] Rarely, closed reduction will not be successful secondary to a buttonholing of the humeral head through a defect in the inferior glenohumeral capsule caused by the injury. This buttonholing mandates an open reduction.[3,5,7,8]. Complications of luxatio including associated fracture of the clavicle/acromion; coracoid; greater tuberosity and/or humeral head; brachial plexus injuries, considered secondary to stretching; and axillary artery occlusion at its origin at the subscapular branch or distal to the circumflex humeral arteries [2,5-7,9] have been reported.

References

Illustrations

Illustration 1

AP view of shoulder showing luxatio erecta

Illustration 2

Axillary view of the dislocated shoulder
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