Luxatio erecta: a prehospital challenge in patient packaging

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A 57-year-old woman fell from a ladder as it slipped away from the wall and came to rest lying prone on the ladder with both arms extended above her head. The only significant finding was severe pain in both shoulders which was treated with Entonox and morphine.

Examination of both upper limbs revealed no bony tenderness or neurovascular deficit. Immobilisation of the cervical spine was felt necessary in view of the mechanism of injury, so the patient was log-rolled from the ladder onto a long board with the arms supported in extension. Gentle attempts were made to restore the limbs to a neutral position but this resulted in extreme pain and the arms appeared locked; from first principles, a bilateral inferior shoulder dislocation was surmised. The patient was secured to the board with padding to immobilise the cervical spine and support the arms in extension having ensured there was space in the ambulance to permit this.

A radiographic examination confirmed bilateral inferior shoulder dislocations without associated fractures which were successfully reduced in the emergency department with conscious sedation. The injury was complicated on the right by an axillary nerve palsy which subsequently recovered. No rotator cuff tear was evident clinically or on MRI scanning.

DISCUSSION

Inferior glenohumeral dislocation (luxatio erecta) is rare, accounting for less than 0.5% of all shoulder dislocations. 1 Bilateral inferior dislocation is extremely rare, with few cases consequently being reported since it was first described in 1920. 2

Early recognition and reduction is important to prevent neurovascular sequelae. 3

The mechanism is a hyperabduction force to the humerus causing impingement against the acromion and levering the humeral head inferiorly or, less commonly, directly axial loading on a fully abducted extremity.

Previously reported mechanisms include ejection from a motor vehicle, falling into a cement mixer and body surfing. Typically the shoulders are fully abducted, elbows extended and the forearms pronated, as can be imagined in the position of standing on a ladder while painting. It is postulated that, in this case, dislocation occurred due to a sudden hyperabduction force from this position as the ladder slipped.

The upper limb becomes locked in an overhead position with the elbows typically flexed and the hands resting above the head. The humeral head can be seen or palpated inferior to the empty glenohumeral fossa on the lateral thoracic cage.

The clinical presentation with its classic posture is dramatic and pathognomonic, but luxatio erecta may be easily missed due to its rarity and has even been misdiagnosed as a hysterical reaction. 4

Radiologically, the shaft of the humerus is directed superiorly and lies parallel to the spine of the scapula on the anteroposterior view. The humeral head is seen inferior to the glenoid fossa (fig 1).

Reduction can usually be achieved by overhead traction followed by gentle abduction to unlock the humeral head from below the glenoid; the arm can then be brought down into the adducted position. However, the injury is so rare that few

Figure 1 Radiographs showing right and left inferior glenohumeral dislocation.
are familiar with the technique. Indiscriminate attempts at adduction are extremely painful and potentially dangerous, increasing the possibility of iatrogenic injury.

Complications are common, up to 80% being associated with fracture or rotator cuff tears. Neurovascular compromise occurs in up to 60% of cases, most often as an axillary nerve or other brachial plexus neuropraxia. Axillary artery occlusion and axillary venous thrombosis have also been reported.

Prehospital management considerations included whether the patient with extended arms could fit and be secured in the ambulance and whether reduction on scene was appropriate. Given the rarity of the injury, unique reduction methods required and the high incidence of complications, it was felt that modification of patient packaging sufficed to transport the patient to hospital without delay.

We believe this case represents only the 11th case of bilateral luxatio erecta to be reported in the English literature and the first to describe this mechanism of injury.

**Competing interests:** None.

**Patient consent:** Obtained.

**REFERENCES**


**Images in emergency medicine**

**A penetrating trauma to the temple**

Penetrating trauma to the temporal region can sometimes be dangerous and cause some life-threatening intracranial complications. Here we report a case that was fortunate in this regard.

A 30-year-old man was referred to our trauma emergency ward with a pair of scissors that had been thrust into his right temple area in a personal clash. His general condition was stable, with normal eye movements and facial nerve function and no other neurological focal signs. A computed tomography scan and plain x ray were performed but computed tomography was not useful because of the metal artifacts. The plain x rays showed the tip of the scissors just below the great wing of the sphenoid bone (figs 1 and 2).

In the operating room with a neurosurgeon standing by the scissors were extracted with no mishaps. The patient was discharged the day after with no adverse events.

**Figure 1** Photograph of the patient.

**Figure 2** Plain x ray radiograph of the patient.
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