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Bilateral inferior dislocation of shoulder-A case report

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Abstract
Inferior shoulder dislocation/Luxatio erecta is the rarest of all gleno-humeral joint dislocations. Bilateral inferior dislocations are therefore extremely rare. Mostly they happen after a seizure episode, electrocution or in sports injuries. We describe a 29 year-old male who inferiorly dislocated his both shoulders, after an accidental fall. The dislocation was manually reduced at the emergency department. After 12 months of conservative treatment with physical therapy, the range of motion and muscle strength of the shoulder recovered satisfactorily for the patient's demands.

Keywords: shoulder, luxatio erecta, bilateral inferior dislocation

Introduction
Shoulder joint is the most mobile joint in the body. This wide range of movements including forward flexion, abduction, adduction, external/internal rotation, and 360° circumduction; comes at the expense of stability. Hence it is the most commonly dislocated joint. The most common type is anterior dislocation. Inferior shoulder dislocation / Luxatio erecta is the rarest of all gleno-humeral joint dislocations, constituting about 0.5% of shoulder dislocation [1, 2]. Bilateral inferior dislocations are therefore extremely rare. Mostly they happen after a seizure episode, electrocution or in sports injuries. Traumatic cause is usually after a forceful hyber-abduction of the shoulder. The classic presentation is the patient with arms locked overhead in a hyper-abducted fashion. Inferior shoulder dislocation is frequently associated with injuries to the static and/or dynamic stabilizers, fracture of the greater tuberosity, and can have associated neurovascular deficits. Immediate close reduction is required to avoid neurovascular complications. A careful neurovascular examination is mandatory, both before and after closed reduction [3]. Bilateral luxatio erecta represents an extremely rare condition, and to our knowledge, only a few cases have been reported in medical literature.

Case Report
We present our case of a 29 year old manual labourer from Orissa, who presented to our ER with an alleged h/o fall from tree. While falling down, he clung onto the tree branches on both sides, followed by sudden pain and inability to move both shoulders thereafter. He complained of severe pain both shoulders and right foot. On clinical evaluation, he had his arms locked over head and any attempted movements of his shoulder were excruciatingly painful. No neurovascular deficits were elicited.

Fig 1: Attitude of the patient on arrival at ER.

Radiological evaluation diagnosed a bilateral inferior shoulder dislocation with associated greater tuberosity fracture on left side and comminuted fracture – base of 3rd and 4th metatarsals – right.

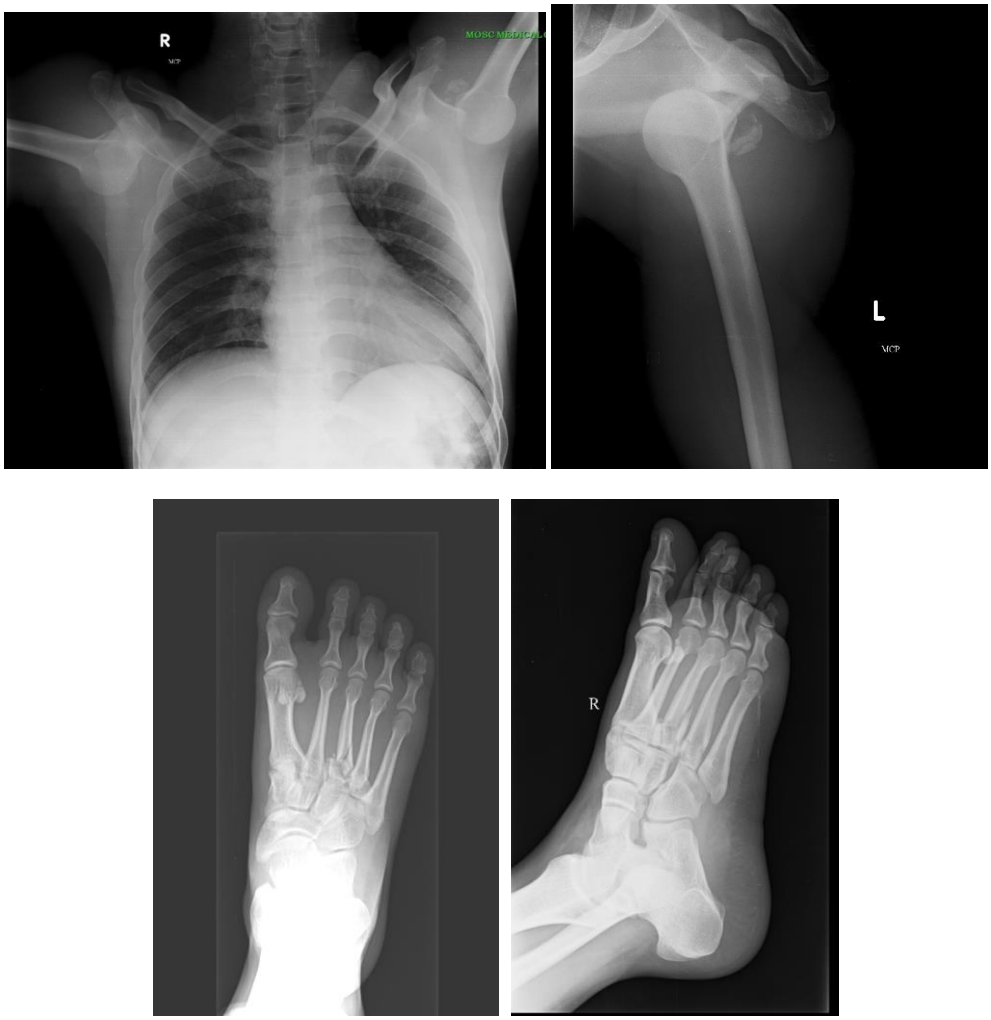

Fig 2: X ray images showing bilateral inferior dislocation and metatarsal fractures

He underwent emergency Closed Manipulation and Reduction under sedation in Minor OR and both arms were supported in arm pouch and foot was stabilised in a below knee POP slab. During manipulation arm was gently rotated and converted into an anterior dislocation and then reduced by Kocher's manoeuvre.

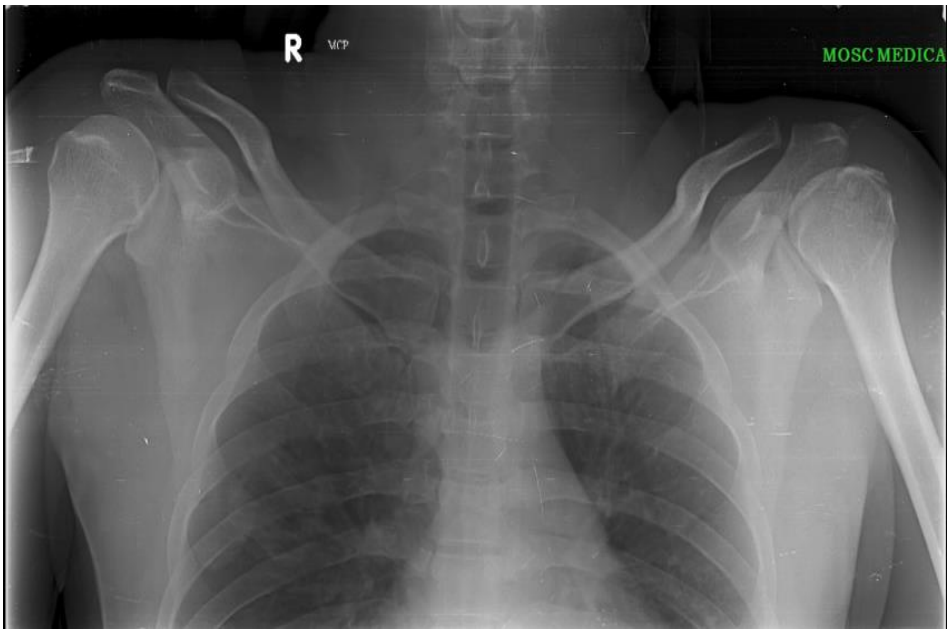

Fig 3: X ray image showing reduced shoulder joint bilateral with Greater Tuberosity fracture – left.

CT evaluation was done to assess the fracture pattern which reported minimally displaced greater tuberosity fracture.

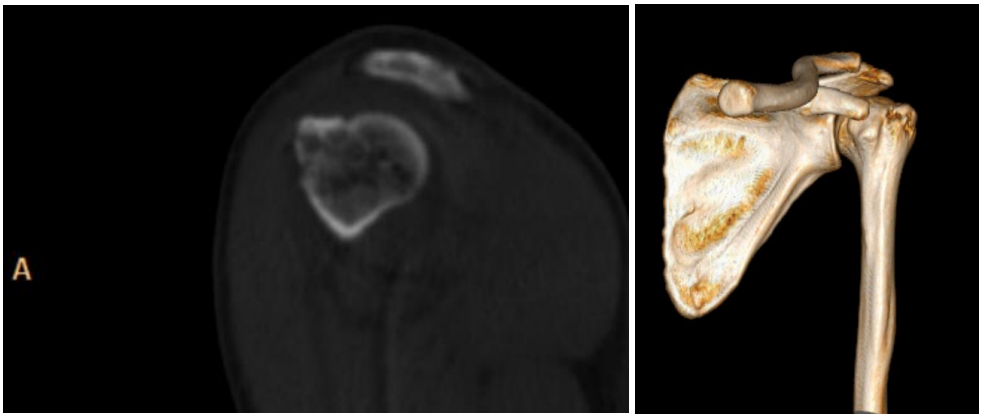

Fig 4: CT images showing minimally displaced greater tuberosity fracture – left

He was discharged after 2 days and was followed up at regular intervals. Below knee cast was applied after swelling subsided and was removed after a month. Gentle ROM shoulders began after 1 month. He was on regular physiotherapy follow up at his native place. At 4 months follow up, he was totally painfree, have near normal ROM both shoulders and has resumed his job.

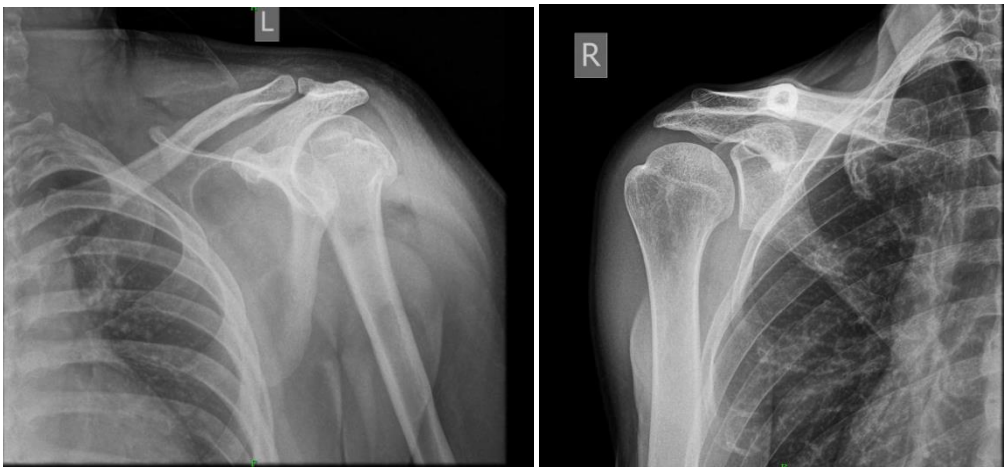

Fig 5: X ray images at 4months follow up.

At 1 year follow up, he has a malunited greater tuberosity fracture – left with minimal functional impairment.

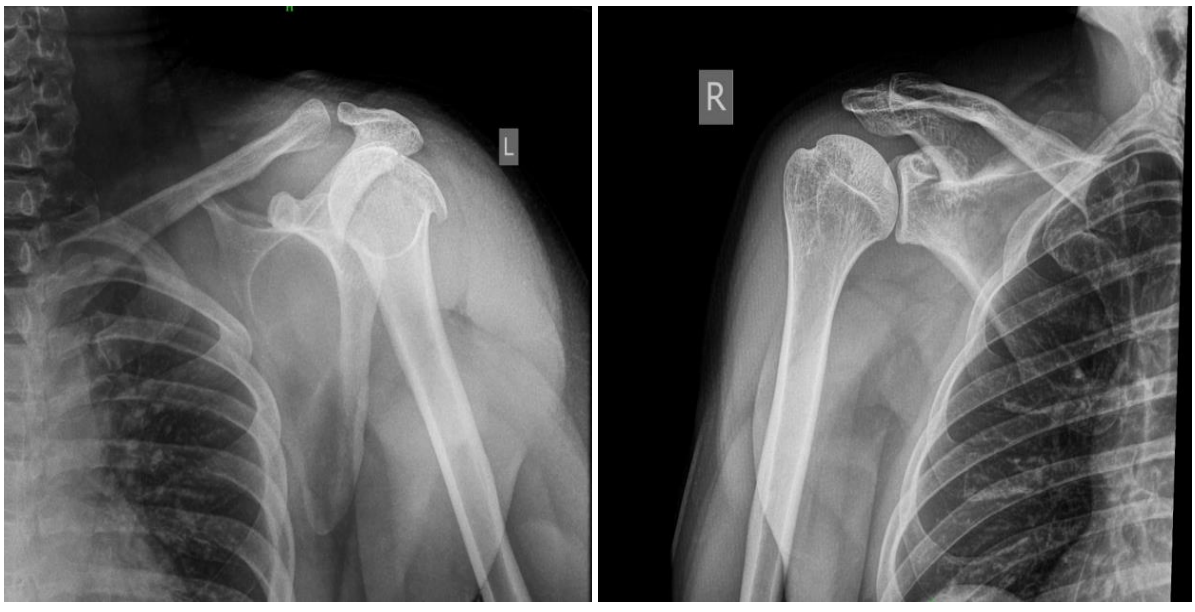

Fig 6: X ray images at 1 year follow up.

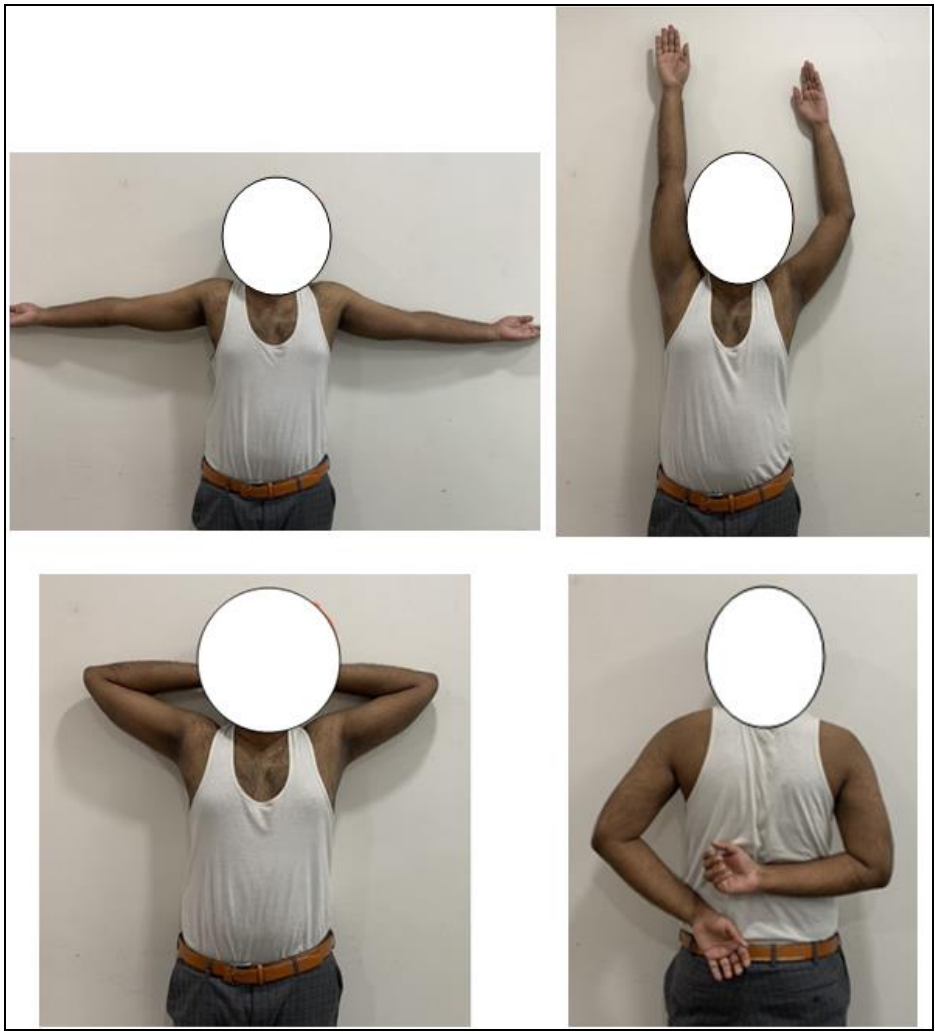

Fig 7: Functional follow up at 1 year.

Discussion

Inferior dislocation of shoulder is also known as "luxatio erecta" due to the 'hands up' attitude of the patient on presentation. Most common type of shoulder dislocation is anterior one and luxatio erecta represents about 0.5% of all shoulder dislocations [4]. This happens as a result of sudden hyper abduction injury as mostly happens with fall on abducted shoulder. The head of humerus gets levered over the acromion process and dislocated below glenoid. The typical attitude would be hyper-abduction and external rotation. There can be associated fractures of greater tuberosity, glenoid or even brachial plexus injury. Axillary nerve is at risk in this type of injury and has to be carefully examined and documented before attempting reduction and after. Radiological investigation will show you the head of humerus lying below the glenoid fossa and any associated fractures. Computed Tomography can be helpful to diagnose any occult fractures.

Reduction manoeuvre should be attempted only after adequate analgesia and sedation. Gentle traction in line with the deformity along with an assistant pushing the head of humerus palpable in axilla into the glenoid fossa and gentle adduction will reduce it. Another approach is to gently externally rotate and adduct to convert it into an anterior dislocation and then reduce it by usual means.

Bilateral inferior gleno-humeral dislocation is extremely rare; the first case reported in 1920 by Murrad [5]. To our knowledge, only few cases have been reported so far worldwide; mostly in sportsmen in European population. General consensus in treating these injuries are immediate reduction followed

by surgical repair of the associated injuries (such as rotator cuff, greater tuberosity). Due to financial constraints and difficulty in post-operative follow- up, as he was from a distant place; our patient opted for conservative treatment and has achieved satisfactory functional recovery.

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