

Posterior Shoulder Fracture Dislocation

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to view radiographs and clinical pictures.

Introduction

This 68 year old right-hand dominant woman was climbing down a set of stairs when she tripped and fell off the sixth step from the bottom onto her outstretched right hand. She felt immediate pain in her right shoulder and elbow, and was seen in the emergency department. She sustained a closed, isolated injury to her right shoulder and radiographs (shown below) were done to confirm this injury. She was given a diagnosis of a right humeral fracture at the level of the surgical neck. Treatment consisted of a Velpeau sling. She was discharged home in the sling and sent for follow-up to the orthopaedic clinic four days later.

Right Shoulder Radiographs in the Emergency Room

Four days after presentation in the emergency room, this lady was seen in the fracture clinic. She was wearing a Velpeau sling and complained of pain in her right shoulder out of proportion to the injury previously diagnosed. Her arm was in neutral flexion-extension, neutral abduction-adduction, and fully internally rotated. She had pain and tenderness over the anterior and posterior right proximal humerus. Neurovascular examination of the right upper extremity was normal. Radiographs were reviewed from the emergency room and repeated on the day of her fracture clinic visit (below). These included an anteroposterior view, transscapular lateral view, and axillary view of the right shoulder.

What is your diagnosis ?

What is your next step in the management of this patient ?

This patient has a right shoulder posterior fracture-dislocation. There is a humeral fracture at the surgical neck and a displaced fracture of the greater tuberosity. Since she was four days post injury, she was taken to the resuscitation area of the emergency room and a closed reduction under IV sedation and analgesia was carried out. The patient was placed supine on the floor with assistants providing countertraction to hold her body to the floor during reduction. The right shoulder was fully adducted and flexed to 45 degrees. The right elbow was flexed to 90 degrees and fully internally rotated to unlock the humeral head from the posterior aspect of the glenoid. Gentle longitudinal traction was applied until a clunk was felt by the orthopaedic surgeon and assistant. At this point the shoulder was fully abducted, placed in neutral flexion-extension, and full external rotation. This yielded a greater range-of-motion in the internal-external

rotation plane than pre-reduction. With the arm held in this position, new radiographs were taken (below).

What is your definitive management of this patient ?

The reduction (confirmed on all three views) was successful. The patient was placed in a cast with her right shoulder in neutral flexion-extension, neutral abduction-adduction, and full external rotation. Radiographs were taken again to confirm that the surgical neck fracture had not displaced, the greater tuberosity fragment had not migrated into the subacromial space, and the shoulder had not dislocated posteriorly during cast application.

What is your postoperative management of this patient ?

The patient will be left in this external rotation cast for 6 weeks. We plan to see her in fracture clinic weekly for the first three weeks to examine her and radiographically document the position of the humeral head in the glenoid fossa, as well as the fracture fragments.

