

Thrower's Fracture of the Humerus: A Case Report

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ABSTRACT

Humeral fractures typically occur as the result of direct, external trauma. Here however, we describe the case of a young, amateur athlete presenting with acute right, upper arm pain after throwing a ball. Examination showed right upper arm deformity and tenderness to palpation, without any distal neurovascular deficits. X-ray demonstrated a spiral fracture of the humerus. The patient had operative repair of the injury several days later, with no complications noted on outpatient visits up to 3 months later.

CASE REPORT

A 35-year-old, right-handed man presented to the emergency department with right upper arm pain. He was a member of an amateur baseball team. Just prior to arrival he threw a ball and immediately felt a pop and sharp pain in his right upper arm. Since that time, he had been unable to move his arm due to pain. He reported no prior injury to the arm but did state that over the last several weeks he had been having an ache in that arm. He was otherwise healthy, took no medications, denied weakness, numbness and tingling in his right arm. He was a non-smoker and an occasional drinker. He used no drugs.

Physical exam was normal except for the right upper arm, which was swollen and tender to touch. He had decreased range of motion in his elbow and his shoulder secondary to the pain. He had an obvious deformity of the right bicep region. The lower arm had normal neurovascular integrity with normal range of motion in the wrist and hand. He had a 2+ radial pulse and capillary refill was less than 3 seconds.

The humeral x-ray demonstrated a displaced spiral fracture (Figure 1). The patient was placed in a coaptation splint. Reexamination revealed no evidence of radial nerve palsy or radial artery injury. The patient followed up with the orthopedic doctor on call and underwent open reduction and internal fixation of his injury within 1 week (Figure 2). Outpatient follow-up 3 months later showed routine healing without complications.

Figure 1. AP and oblique radiographs of the right humerus demonstrating a spiral fracture.

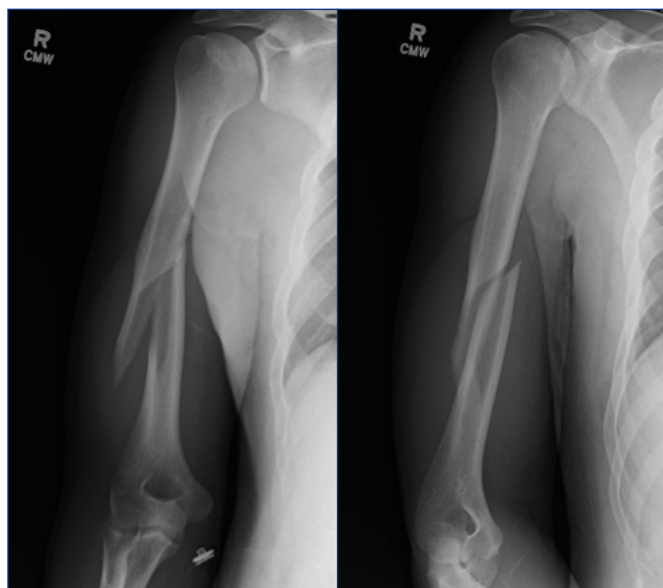
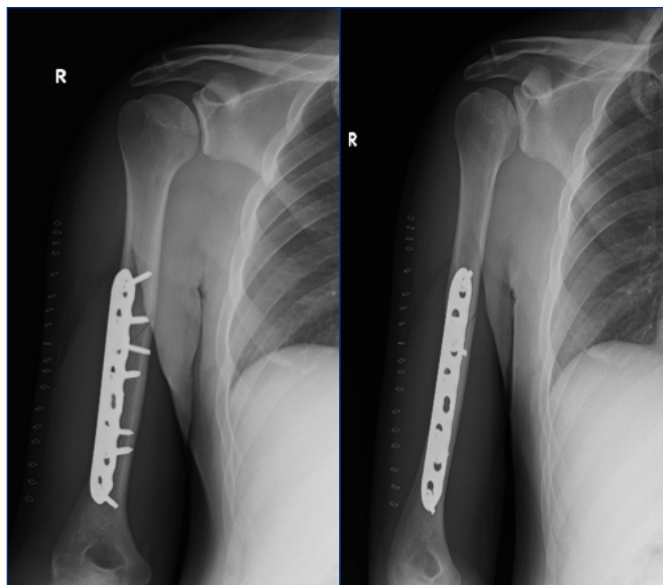


Figure 2. Right Humerus status post open reduction and internal fixation.



DISCUSSION

This patient's presentation is consistent with a well-described, but rarely observed phenomenon known as a 'Thrower's Fracture.' First reported in 1930,¹ cases have been reportedly related to everything from a baseball,^{2,3} to a cricket ball,⁴ to a dodge ball,⁵ and hand grenades.⁶ As with our patient, many patients who present with this injury are amateur athletes who have likely not developed adequate cortical strength of their bones as compared to professional athletes.⁷ The injury is often preceded by several weeks to months of aching in the region of the humerus, which is thought to represent a stress fracture.^{2,4,8} The complexity of the throwing motion and related transfer of forces, results in significant torque being applied to the humeral shaft, leading to a fracture, most commonly in the mid to distal third of the diaphysis.

These patients can have similar complications to any mid-shaft, spiral humeral fracture including damage to the radial artery and radial nerve.^{9,10} In these cases, given the active nature of these athletes, and if underlying complications have occurred, surgeons may elect to repair this injury surgically,^{2,4,10} though this is not always necessary.

References

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