Case Study

Use of the INnate™ Intramedullary Threaded Nail to Treat Failure of Nonoperative Trial for Distal Ulna Fracture

Dane N. Daley, MD

Medical University of South Carolina
Charleston, SC

Dr. Dane Daley, a graduate of East Tennessee State University College of Medicine, completed a hand fellowship while at OrthoCarolina. He specializes in orthopedic and hand surgery.

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Case Presentation

A 74-year-old right-hand dominant female, daily pack per day smoker and alcohol abuse with a history of multiple falls presented status post-fall downstairs with an isolated closed distal ulna shaft fracture. The patient was placed in a short arm cast with close interval follow-up for trial of nonoperative management. At two weeks, she returned with continued severe wrist pain and interval radiographic displacement. After further discussion, she opted for surgical stabilization with minimally invasive INnate™ Intramedullary Threaded Nail.

Preop Plan

Dane Daley, MD, elected for closed reduction and internal fixation via a minimally invasive approach and a 4.5 mm x 75 mm INnate Intramedullary Threaded Nail. This technique was selected given her age, smoking status, medical comorbidities.

Operative Findings and Approach

An adequate closed reduction was achieved and manually held. Using anatomic landmarks and intraoperative fluoroscopy, a guide wire was passed retrograde through the ulnar head and across the fracture site. The cannulated drill was then used over the K-wire, and a size 4.5 mm x 75 mm INnate nail was selected and the threaded cannulated INnate was placed. The INnate nail was driven in until positioned beneath the articular surface, maintaining good purchase in subchondral bone. Proximal purchase was achieved with intracortical fit.

Follow-up

Postoperatively, the patient was splinted with a short arm splint with follow up at two weeks. At that time, the splint was removed and she transitioned to a removable wrist brace with early active range of motion, protected weight-bearing, and referral to hand therapy. She returned for clinical follow-up at two weeks, six weeks, and three months. At the six-week appointment, she had full range of motion with no pain; however, she continued with wrist immobilization and protected weight-bearing given her history. At her three-month appointment, she had full symmetric wrist range of motion, no pain, and complete radiographic bony union, and was released to resume activities as tolerated.

Preoperative

Postoperative