

Introduction:

Distal humerus fractures, particularly in elderly or osteoporotic patients, are often difficult to treat due to comminution and poor bone quality. While open reduction and internal fixation (ORIF) remains standard for reconstructable patterns and total elbow arthroplasty (TEA) is effective for low-demand patients, distal humerus hemiarthroplasty (DHH) offers a bone preserving alternative when stable fixation or TEA is less ideal. This study presents a case series evaluating clinical outcomes, complications, and radiographic stability following DHH for acute fractures and salvage indications.

Methods:

A retrospective review identified nine patients who underwent DHH between 2016 and 2024. Indications included unreconstructable acute fractures (n=7) and salvage after failed fixation or nonunion (n=2). All procedures utilized the Latitude prosthesis (Tornier) through a posterior triceps-on approach with collateral ligament reconstruction, using the humeral component off-label as a hemiarthroplasty. Data collected included demographics, indication, range of motion, pain, complications, and radiographic findings. Descriptive analysis was performed.

Results:

At final follow-up (range, 1.5–9 months), flexion ranged from 85°–130° and extension deficits from 15°–60°, producing arcs of 55°–115°. Five patients were pain-free, two reported mild pain, one moderate pain, and one described persistent discomfort without a numeric score. Three complications occurred including one postoperative stiffness requiring contracture release and two with asymptomatic heterotopic ossification. No cases of loosening, instability, triceps insufficiency, or periprosthetic fracture were observed. Radiographs demonstrated stable implant alignment in all available cases.

Discussion:

Distal humerus hemiarthroplasty provided reliable short-term pain relief, restoration of functional motion, and radiographic stability in both acute and salvage settings. Complications did not involve implant failure. These findings reinforce DHH as a practical, bone preserving option for unreconstructable distal humerus fractures, with outcomes comparable to previously published series and a favorable short-term safety profile.