Greater Tuberosity Fractures Associated with an Anterior Glenohumeral Dislocation Have a High Rate of Late Displacement

Gemma E. Toland, MRCS(Ed) MBChB BMedSci(Hons);
Rosemary J. Hackney, Orthopaedic Registrar; Gearóid Crosbie, Emergency Medicine Doctor; Samuel Mackenzie, Consultant Orthopaedic Surgeon;
Nick D. Clement, Consultant Orthopaedic Surgeon; John F. Keating, FIOTA

Purpose: A fracture of the greater tuberosity complicates 15% of anterior glenohumeral dislocations. This study assessed the patient outcomes and rates of tuberosity displacement after closed reduction.

Methods: This study was a retrospective analysis of 337 anterior glenohumeral dislocations with an associated greater tuberosity fracture between 2008 and 2019. Patient notes and radiographs were analyzed at a minimum of 2 years after injury to determine rates of tuberosity displacement, nerve injury, adhesive capsulitis, other complications, and subsequent interventions.

Results: Of the 337 patients, 124 (36%) had greater tuberosity displacement greater than 5 mm after glenohumeral reduction. Of the 124, 74 patients had tuberosity displacement immediately after reduction (early displacement), while in 50 patients, the displacement was only apparent on radiographs 2 weeks post-reduction (late displacement). A nerve injury was reported in 78 patients (23%), with spontaneous recovery in all but 14 (4%). Adhesive capsulitis was reported in 40 cases (11%).

Conclusion: There are high rates of early and late tuberosity displacement after an anterior glenohumeral dislocation. These patients require follow-up for at least 2 weeks with careful scrutiny of the plain radiographs.