Acromial Greater Trochanteric Distance as a Predictor Of Outcomes Post Reverse Shoulder Arthroplasty

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All Authors:
Gerald Zeng MD SINGAPORE
Wai Keong Mak MD SINGAPORE
Denny T. T. Lie MBBS, FRCS, FAMS SINGAPORE

Summary:
Distance of 45 mm from acromion tip to the greater tuberosity demonstrated the best outcomes in terms of the range of motion, pain score and function post reverse shoulder arthroplasty for rotator cuff arthropathy

Data:
Background Rotator cuff arthropathy is a debilitating condition that causes pain and loss of function. Reverse shoulder arthroplasty (RSA) is an established treatment modality for this condition and can provide pain relief and restoration of function. In the absence of a rotator cuff, it restores the function of the shoulder by medializing the glenohumeral centre and leveraging on the deltoid muscle. Suitable tensioning of the deltoid is vital in ensuring the success of an RSA procedure. Questions/Purposes In this study we aim to identify the ideal RSA position in correlation to deltoid length, by utilizing Acromial Greater Trochanteric distance as a marker and assessing how its variation affects functional outcomes. Patients and Methods We retrospectively reviewed the prospectively collected perioperative data of 61 patients who underwent RSA. All 61 patients were assessed peri-operatively according to the 100-point modified Constant-Murley shoulder score, Visual Analogue Score, Oxford shoulder score and the University of California Shoulder Score. Post-operative assessment was performed at six-month and one-year time points. 2 independent observers measured the acromion to greater trochanter distance from the postoperative plain radiographs. Results The mean age of our patients was 69.9 ± 8.3. All patients demonstrated significant improvement in range of motion, pain score and function scores. A distance of 45 mm from acromion tip to the greater tuberosity demonstrated the best outcomes in terms of the range of motion, pain score and function. Lengths shorter than or greater to that demonstrated diminished outcomes. Conclusion We have demonstrated the ideal distance between the acromion and the greater tuberosity tip for the placement of an RSA. In this study we confirm that RSA is a reliable option for rotator cuff arthropathy in old patients with good results and for restoring shoulder functions. Future studies need to validate our findings with a larger sample size and longer duration of follow-up.

Factors Impacting Time to Total Shoulder Arthroplasty Among Patients with Primary Glenohumeral Osteoarthritis and Rotator Cuff Arthropathy Managed Conservatively with Corticosteroid Injections

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All Authors:
Dhruv Sundar Shankar BS UNITED STATES
Edward Stephen Mojica BS UNITED STATES
Christopher Angelo Colasanti MD UNITED STATES
Paola Ortega BA UNITED STATES
Guillem Gonzalez-Lomas MD UNITED STATES
Laith M. Jazrawi MD UNITED STATES

Summary:
The purpose of this study was to identify predictive factors for the time from initial presentation to primary TSA in patients with glenohumeral OA or rotator cuff (RTC) arthropathy managed conservatively with corticosteroid injections.

Data:
Purpose The purpose of this study was to identify predictors of the time from initial presentation to total shoulder arthroplasty (TSA) in patients with primary glenohumeral osteoarthritis (OA) and rotator cuff (RTC) arthropathy who were conservatively managed with corticosteroid injections. Methods We conducted a retrospective cohort study of patients who underwent TSA from 2010-2021. Kaplan-Meier survival analysis was used to estimate median time to TSA for primary OA and RTC arthropathy patients. The Cox proportional-hazards model was used to identify significant predictors of time to TSA and calculate hazard ratios (HRs) with 95% confidence intervals (CIs). Statistical significance was set at P <0.05. Results The cohort included 160 patients with primary OA and 92 with RTC arthropathy. In the primary OA group, median time to TSA was 15 months and significant predictors of shorter time to TSA were older age at presentation (HR 1.02, 95% CI 1.00-1.04, P =0.03) and moderate or severe acromioclavicular joint arthritis (HR 1.45, 95% CI 1.05-2.01, P =0.03). In the RTC arthropathy group, median time to TSA was 14 months and increased number of corticosteroid injections was associated with longer time to TSA (HR 0.87, 95% CI 0.80 - 0.95, P=0.003). Conclusion The time course from initial presentation to TSA is similar between primary OA and RTC arthropathy patients managed conservatively with corticosteroid injections, but there are distinct prognostic factors for progression to TSA in both groups. Multiple corticosteroid injections are associated with delayed time to TSA in RTC arthropathy patients. Level of Evidence III