Conserve or Reverse? Outcomes of Conservative Treatment versus Reverse Shoulder Arthroplasty in displaced 3- & 4-part proximal humeral fractures

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INTRODUCTION:

This study aims to compare outcomes following reverse shoulder arthroplasty (RSA) or non-operative management in patients over 60 years old with displaced proximal humeral fractures.

METHODS:

Retrospective review of patients following displaced 3- or 4-part proximal humeral or head split fractures treated with RSA or non-operative treatment with minimum 2-year follow-up. The radiographic and functional outcome measures included Oxford Shoulder Score (OSS), QuickDASH (QDASH), Subjective Shoulder Value (SSV) and VAS pain. Minimal Clinically Important Difference (MCID) thresholds were set for OSS (5), QDASH (8) and SSV (12) points.

RESULTS:

Comprising the largest study to date, 99 patients (35 RSA vs 64 Non-operative) were matched for age, sex and hand dominance, at mean follow-up of 35 months with a mean age of 71 years old at time of injury. The mean OSS was significantly higher for the RSA group (42 vs 36; p=0.048). Similarly, QDASH (14.4 vs 25.4, p=0.046) and SSV (84% vs 70%, p=0.006) were significantly higher in the RSA cohort. Minimal Clinically Important Difference (MCID) thresholds were also reached for OSS (8), QDASH (11) and SSV (14). Patient acceptable symptom state (PASS) threshold of 75% for SSV was reached in 88% of RSA patients, compared to 46% in non-operative patients (p=0.003). VAS pain did not have a significant effect on outcomes (1.5 vs 2, p=0.0631). The complication rates were higher (51%) in non-operative cohort, including 15% mortality at follow-up, compared to 10% in the RSA patients with 1.5% mortality. The reintervention rate was 13% within the non-operative group and 1.5% within the RSA group.

CONCLUSION:

These results contribute to a growing body of evidence supporting the use of RSA in displaced 3- and 4-part and head split proximal humeral fractures in elderly. It is highlighting that RSA can offer significant benefits in terms of improved PROMS and patient satisfaction with low complication rates.