Abstract:
Inherent disadvantages of reverse shoulder arthroplasty designs based on the Grammont concept have raised a renewed interest in less-medialised designs and techniques. The aim of this study was to evaluate the outcome of reverse shoulder arthroplasty (RSA) with the fully-constrained, less-medialised, Bayley–Walker prosthesis performed for the treatment of rotator-cuff-deficient shoulders with glenohumeral arthritis. A total of 97 arthroplasties in 92 patients (53 women and 44 men, mean age 67 years (standard deviation (SD) 10, (49 to 85)) were retrospectively reviewed at a mean follow-up of 50 months (SD 25, (24 to 96)). The mean Oxford shoulder score and subjective shoulder value improved from 47 (SD 9) and 24 points (SD 18) respectively before surgery to 28 (SD 11) and 61 (SD 24) points after surgery (p < 0.001). The mean pain at rest decreased from 5.3 (SD 2.8) to 1.5 (SD 2.3) (p < 0.001). The mean active forward elevation and external rotation increased from 42° (SD 30) and 9° (SD 15) respectively pre-operatively to 78° (SD 39) and 24° (SD 17) post-operatively (p < 0.001). A total of 20 patients required further surgery for complications; 13 required revision of components. No patient developed scapular notching.

The Bayley–Walker prosthesis provides reliable pain relief and reasonable functional improvement for patients with symptomatic cuff-deficient shoulders. Compared with other designs of RSA, it offers a modest improvement in forward elevation, but restores external rotation to some extent and prevents scapular notching. A longer follow-up is required to assess the survival of the prosthesis and the clinical performance over time.

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