Implant Mismatch Does Not Affect Patient Outcomes in Primary Reverse Shoulder Arthroplasty

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INTRODUCTION:
There is a paucity of literature on implant mismatch in reverse shoulder arthroplasty (RSA). It is unclear if use of different implant manufacturers for the glenoid side and the humeral side influences patient outcomes in primary RSA.
METHODS:
Between January 2016 and June 2020, all patients who had an RSA implanted by one fellowship-trained shoulder surgeon were considered potentially eligible for inclusion in this retrospective analysis of data prospectively collected during a multicenter study. The inclusion criteria were the following: primary RSAs implanted through a deltopectoral approach with mixed components from different manufacturers, patient age between 55 and 85 years, and complete data available at two years follow-up. The cohort was divided into a mismatch group and a control group, with the latter comprising patients having undergone RSA with components from the same manufacturer.
RESULTS:
From the initial cohort, 191 patients were available for the two-year clinical and radiological evaluation. Among these individuals were 60 men and 131 women, with a mean age of 77. The mismatch group comprised 39 patients and the control group included 152 patients. Baseline outcome scores of the mismatch and matched cohorts were similar regarding VAS (p= 0.220), SSV (p= 0.518), ASES (p=0.670), and Constant score (p= 0.477). Two-year postoperative outcome scores of the mismatch and matched cohorts were also similar regarding VAS (p= 0.716), SSV (p=0.125), ASES (p= 0.673), and Constant score (p= 0.607). The complication rate and radiological complication were similar.
DISCUSSION AND CONCLUSION:
Mixing of glenoid and humeral components from different manufacturers does not appear to affect patient outcomes in primary RSA. The results may provide valuable information for orthopedic surgeons when selecting the appropriate implant components for RSA and help guide clinical decision-making for better patient outcomes. It appears reasonable to have manufacturer mismatch when appropriate diameter matching is used.