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John Uribe

Doctors Hospital; Miami Orthopedics & Sports Medicine Institute; Baptist Health Medical Group,
johnu@baptisthealth.net

John Zvijac

Doctors Hospital; Miami Orthopedics & Sports Medicine Institute; Baptist Health Medical Group,
johnz@baptisthealth.net

Luis Vargas

Miami Orthopedics & Sports Medicine Institute, luisva@baptisthealth.net

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Minimum 2 Years Outcomes of Powerlifters and Bodybuilders with advanced Glenohumeral arthritis, managed with Stemless aspherical humeral head resurfacing and inlay glenoid

John Uribe, Luis Vargas John Zvijac

Choose a building block.

Objectives: Symptomatic glenohumeral arthritis (GHA) among high-level bodybuilders and powerlifters is relatively common. Once conservative management fails, the surgical options for these athletes are limited and pose challenges due to their relatively young age and the desire to continue their activities of weightlifting. The benefits of arthroscopic management are limited and short-lived. Hemi or Total shoulder arthroplasty remains controversial, and glenohumeral stresses upon return to even moderate lifting present an added risk for failure. A series of competitive or high-level recreational bodybuilders and powerlifters with advanced GHA who expressed a strong desire to continue their sport were managed utilizing a novel stemless aspherical resurfacing of the humeral head (HHR) combined with an inlay glenoid (IG). To our knowledge, there are no published studies documenting the efficacy of this unique approach.

Methods: Our series consists of 18 shoulders corresponding to 14 male athletes with an average age of 45.6 years, range 25-57, who were prospectively followed. Pre- and postoperative evaluations included physical examination, radiographic assessment, the American Shoulder and Elbow Surgeons (ASES) Standardized Shoulder Assessment Form, the Western Ontario Osteoarthritis of the Shoulder Index (WOOS), pain visual analog scale (VAS-P), forward flexion (FF), external rotation (ER), internal rotation (IR) and patient satisfaction rating questionnaires.

Results: All procedures were performed on an outpatient basis. No intraoperative complications were encountered, and no blood transfusions were required. The mean follow-up was 38 months, with a range (25-51). The mean ASES score improved from 26 to 93, and the mean WOOS score improved from 18 to 87. The mean VAS-P decreased from 9 to 1, mean FF increased from 115° to 145°, mean ER improved from 30° to 60° and IR improved from the level of the sacrum to L3.

Eleven of the fourteen patients rated their preoperative shoulder satisfaction as poor. At last follow-up, all patients rated their shoulder as good to excellent. Radiographic follow-up revealed no evidence of component loosening, glenoid migration, or evidence of device failure. All patients were satisfied with the procedure and 12 / 14 returned to a moderate or higher level of weight lifting activities. One patient required an arthroscopic capsular release for arthrofibrosis which significantly improved function. Four of these patients requested contralateral surgery within six months of initial procedure.

Conclusion: Stemless aspherical humeral head resurfacing combined with inlay glenoid replacement provides substantial pain relief and functional improvement and is a promising option for the management of symptomatic osteoarthritis in this challenging patient population. The procedure allows for a return to activities without restrictions and leaves multiple arthroplasty options if revision becomes necessary. Our results need to be reconfirmed in a larger cohort with longer follow-up.

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