

Humeral Head Fresh Osteochondral Allograft Transplantation for Large Hill-Sachs Lesions in Patients with Recurrent Shoulder Instability: Results of Mid-to Long Term follow Up

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INTRODUCTION: The treatment algorithm for Hill Sachs lesions with recurrent shoulder instability remains debated. Large defects have been treated with fresh osteochondral allograft (OCA) of the humeral head; however, long-term outcomes are limited for this technique.

METHODS: A retrospective analysis of patients who underwent fresh humeral head allograft transplantation for large Hill Sachs lesions at our institution were included in the study. Clinical and radiographic variables were recorded, as well as pre- and postoperative range of motion. Clinical outcome data included postoperative Western Orthopedic Shoulder Index (WOSI), American Shoulder and Elbow Surgeons (ASES), and Rowe scores.

RESULTS: Ten patients were included in the study, 8 males and 2 females. The average age at final follow up was 40 years (range: 25-66). The mean follow up was 6.9 years, (range 2.0-10.6 years). Preoperative forward flexion improved from 100.6 to 142.5 degrees postoperatively ($p=.20$), and average preoperative external rotation improved from 35.0 to 48.1 ($p=.30$). Average preoperative internal rotation improved from 62.5 degrees to 71.3 postoperatively ($p=.70$). There were no conversions to arthroplasty or current symptoms of instability in our cohort. One patient underwent a revision OCA procedure at 4 months postoperatively. Clinical outcomes scores were obtained for 6 patients at final follow up. The average WOSI score was 26.8 (range: 1.2- 66.23), the average ASES was 75 (range: 12-98), and the average Rowe score was 79 (range 35-100). Five out of 6 patients were very satisfied with the procedure. On 6-month radiographic evaluation, 1 patient had hardware prominence and 2 patients showed graft subsidence.

DISCUSSION AND CONCLUSION: Humeral head allograft transplantation for large Hill Sachs lesions is a viable treatment with acceptable clinical outcomes and no conversions to arthroplasty or instability symptoms at 6-year mean follow up. Higher level studies with larger patient cohorts are warranted to further define the appropriate indications for this treatment.