Short-Term Outcomes of an Augmented Baseplate in Reverse Total Shoulder Arthroplasty: A Prospective Multicenter Study

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Disclosures

- Dr. Krupp - Arthrex: paid presenter or speaker; Biomet: paid consultant; DJ Orthopaedics: research support; Rotation Medical: research support; Stryker: paid consultant or speaker; Zimmer: paid consultant or speaker; research support.

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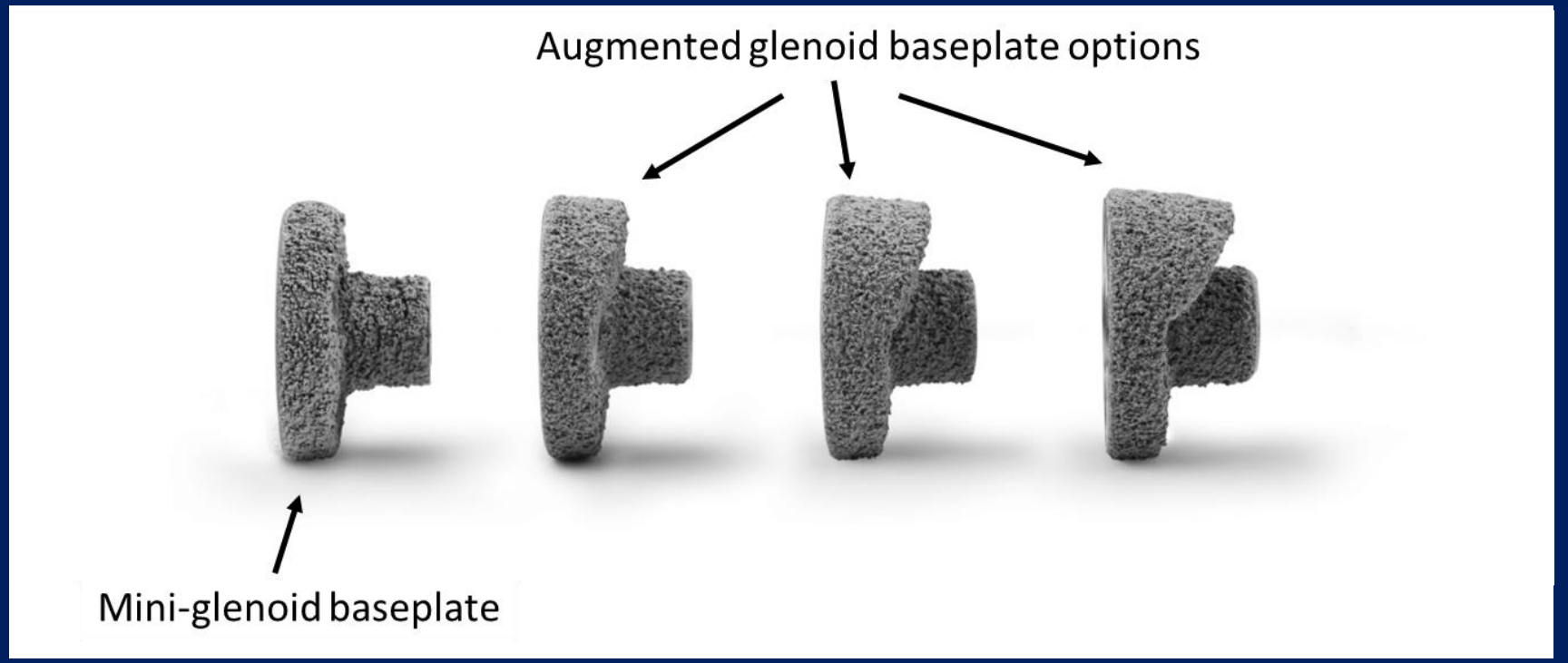
Summary

- Two year results for reverse total shoulder arthroplasty with an augmented baseplate displayed high survivorship and improved patient outcomes

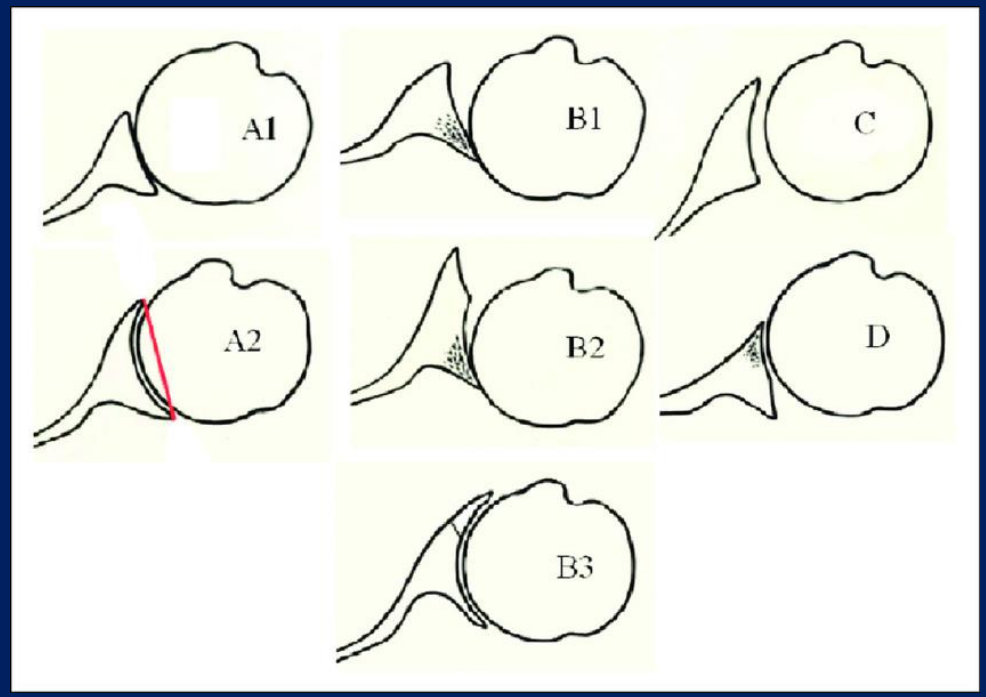


Purpose

- Glenoid fossa bone loss can compromise reverse total shoulder arthroplasty (RTSA) fixation integrity.[1-5]

- The study objective was to evaluate patient clinical outcomes and radiographic evaluations at 1 and 2 years post-primary or revision RTSA using an augmented baseplate.

Walch Classifications



Methods

- A prospective multicenter trial was performed at 6 different clinical sites. Seventy-four subjects (71 primary cases, and 3 revisions) with 54.1% women were enrolled with clinical, functional, and radiographic evaluation performed at 1 and 2 years post-RTSA. Rotator cuff arthropathy (50%) and osteoarthritis with a non-functional rotator cuff (28.4%) were the surgical indications. To date, 65 patients have completed the 2 year follow up. A deltopectoral surgical approach (11.4 ± 2.1 cm incision length) was used in all cases with an average operating time of 88.1 ± 27.4 minutes.

- Patient reported outcomes surveys administered at study entry and at 1 year, and 2 years post-RTSA included the American Shoulder and Elbow Society (ASES) score, visual analog scale (VAS) shoulder pain and instability scores, and the European Quality of Life Survey (EQ-5D-5L), a 5 dimension (mobility, self-care, usual activities, pain/discomfort, and anxiety/depression), and 5 response level (no problems, slight, moderate, severe, and extreme problems) quality of life measurement instrument. A score of 1 represents the best health state.

Results

- Mean ASES scores improved from 38.6 at study entry to 83.6, and 87.6, at 1 year, and 2 years post-RTSA, respectively. Mean VAS shoulder pain scores improved from 5.7 at study entry to 0.8 and 0.4 at 1 year, and 2 years post-RTSA, respectively.

- Mean VAS shoulder instability scores also improved from 3.1 at study entry to 0.7 at 1 year, and 0.4 at 2 years post-RTSA. The EQ-5D-5L improved from 0.5 pre-RTSA to 0.8 at both 1 year, and 2 years post-RTSA. By the 2 year follow up mean active shoulder forward elevation had improved 57° and mean active adducted shoulder external rotation had improved 26° compared to study entry measurements.

- At present, only 1 revision has been necessary to correct glenoid component migration from central screw breakage. One patient death occurred prior to the 2 year follow-up, however, it was not study related. No additional major complications occurred. Kaplan-Meier two year survivorship is currently 98.6%.

Conclusion

- At 2 year follow up, RTSA with an augmented glenoid baseplate demonstrated excellent patient outcomes, minimal complications, and good survivorship.

- Further study over longer time periods with randomized augmented baseplate assignment are indicated.

Thanks for your attention!

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