The outcomes of repeat two-stage revision surgery for previously failed two-stage revision total hip arthroplasty

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INTRODUCTION:

Patients with persistent periprosthetic joint infections (PJIs) following failed two-stage revision arthroplasty may require repeat two-stage revision surgery. The longer-term survivorship and clinical outcomes of these patients remain unknown. The objective of this study was to report on the outcomes of repeat two-stage revision THA for persistent PJI following previously failed two-stage revision THA.

METHODS:

This study included 58 patients who underwent repeat two-stage THA having undergone at least one previous two stage procedure for PJI. The study included 32 women and 18 men with a mean age of 65.1 years (range, 48 to 84 years) from two different treatment centres. All patients received minimum six weeks of intravenous antibiotics following the first stage revision procedure. Minimum follow-up time was five-years from the date of the revision two-stage revision THA.

RESULTS:

Kaplan-Meier analysis revealed survivorship was 50.8% (95% CI [confidence interval]: 42.2 to 61.2%) when the end point was reoperation for any reason at ten-year follow-up. Reoperations were performed for infection (n=11), instability (n=5) and aseptic loosening (n=4). The mean patient satisfaction score was 64.8 ± 10.1 and the mean Forgotten Joint Score was 64.4 ± 12.2 at the final follow-up. The preoperative median University of California at Los Angeles score improved from 3 (IQR [interquartile range] 3 to 4) to 6 points (IQR 5 to 7) ($P < 0.001$), and the preoperative Oxford hip score improved from 12.1 ± 4.1 to 36.4 ± 4.6 points ($P < 0.001$) at the final follow-up.

DISCUSSION AND CONCLUSION:

Repeat two-stage revision surgery for persistent PJI following previously failed two-stage revision arthroplasty is associated with high risk of recurrence and complications. Approximately, half of these patients will require reoperation within ten years of the revision two-stage THA. The most common reasons for reoperation include PJI, instability and aseptic loosening.