Evidence in focus

Publication summary

Assaf A, et al. *Eur J Orthop Surg Traumatol* (2018)*

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POLARSTEM® and R3® uncemented total hip arthroplasty (THA) demonstrates implant survival rate of 99.2% at 7 years

Revision rates are comparable to those in the UK's National Joint registry (NJR)

Study overview

- A single-centre, prospective study reviewing the revision rate in patients undergoing THA with uncemented POLARSTEM and R3 between August 2009 and December 2010 with a minimum 7-year follow-up
  - 144 THAs were performed in 143 patients with a mean age of 68.3 years
  - 114 THAs were available for analysis (30 patients died of unrelated causes)
- Primary outcome was revision rate; secondary outcomes were patient-reported outcome measures (PROMs) using the Oxford Hip Score (OHS) and evaluation of pre- and post-operative radiographs

Key results

- There were three revisions: including one revision of R3 at 8 years; no revisions of POLARSTEM
- At 7 years, a Kaplan–Meier survivorship analysis showed an implant survival rate of 99.20% for revision of any component (cup or stem) and 97.69% for revision for all cause (Figure)
- Mean post-operative OHS at 7-year follow-up was 38 (range 8-48; n=114)
  - 13 patients had an OHS ≤25; the majority of these patients (61.5%) still reported overall satisfaction with the outcome of the procedure
- No radiolucency around the femoral stem and none of the R3 cups showed osteolysis at the final follow-up

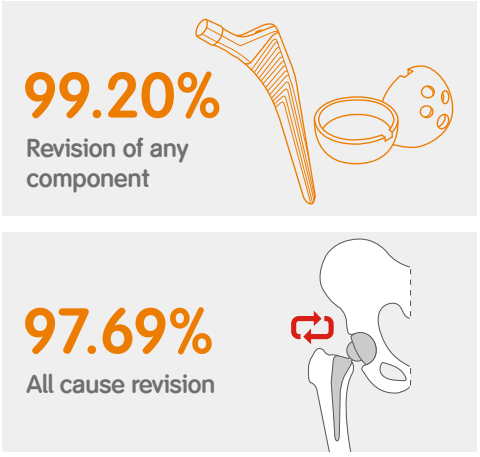

Figure. Implant survival rate at 7 years

Conclusion

This study demonstrates revision rates for POLARSTEM and R3 THA are comparable to the UK's NJR. Excellent clinical and radiological outcomes were also reported.

Considerations

- The study cohort included 14% of complex primary THA and 2% revision THA
- This independent study is the first clinical study that analyses the 7-year revision rates, radiological evaluation and PROMs for uncemented POLARSTEM and R3 THA

Study citation

*Assaf A, Manara JR, Teoh KH, Evans AR. Mid-term clinical results of the cementless R3 cup and Polarstem total hip arthroplasty. *Eur J Orthop Surg Traumatol*. 2019;29:827–833.
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