Joint survival analysis and clinical outcome of bilateral total joint arthroplasties with the Isis implant in the treatment of trapeziometacarpal osteoarthritis

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Introduction

- New generation of ISIS TMC total joint arthroplasty: modular, semi retentive, uncemented ball-and-socket hydroxyapatite-coated implant
- Introduced in 2007
- Primary outcome: report the medium- to long-term joint survival of this prosthesis in patient who have been operated on both sides
- Secondary outcomes: clinical and functional results

Material and methods

- Multicenter retrospective study involved 12 patients who underwent 36 Isis TMC prosthesis implantations
- From June 2007 to September 2016
- Minimum of 12 months’ follow-up
- Indications for the procedure: painful bilateral TMC joint osteoarthritis affecting activities of daily living and a failure of at least 6 months of nonsurgical treatment
- Clinical and radiological assessment was recorded prospectively:
  - before surgery and in the first year by the surgeon
  - at the lastest follow up after surgery by an independent operator
- We compared before surgery and at the latest follow-up:
  - the means of the Kapandji index
  - the grip strength
  - the pinch strength
  - Quick Dash
- Clinical and radiological complications were registered

Results

- Prosthesis included in the survival analysis: 36 (32 bilateral arthroplasties from 12 patients)
- Mean follow-up: 48.2 months (range, 12-111 months)
- Mean age at surgery: 60.4 years (range, 42-80 years)
- At the lastest follow-up:
  - Mean Quick Dash improved from 75.6±10 (range, 5-10)
  - Mean grip strength improved by 44%
  - Mean pinch strength improved by 25%
- At the lastest follow up:
  - No prostheses required revision surgery
  - No dislocation
- Radiological complications at the lastest follow up:
  - 2 sinking or edging around the cup (5.5%)
  - 1 appearance of scapho-trapezoid arthritis (2.7%)
  - 6 appearance of calcifications (16.6%)

→ There was no symptom for these different radiological complications

Conclusion

- In our series, the bilateral procedure for Isis prosthesis in TMC osteoarthritis has proven to be a reliable and effective implant
- Mean motion and strength increased whereas pain decreased after surgery and these results remained constant within the follow-up period

Bibliography