Joint survival analysis and clinical outcome of total joint arthroplasties with the Isis implant in the treatment of trapeziometacarpal osteoarthritis: multcenters prospective continue case series with a minimal follow-up of 5 years

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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 males patients only
- Secondary outcomes: clinical and functional results

Material and methods

- This multicenter retrospective study involved 24 patients who underwent 29 Isis TMC prosthesis implantations
- From November 2006 to July 2009
- Minimum of 5 years' follow-up
- Indications for the procedure: painful 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: 29 (29 arthroplasties from 24 patients)
- Mean follow-up: 80 (range, 60-120 months)
- Mean age at surgery: 65.4 years (range, 42-84 years)
- At 5 years’ follow-up:
  - The mean Quick Dash improved from 77.2 ± 2.5 to 11.9 ± 1.4
  - Mobility of the thumb was restored
  - Kapandji score: 9.6/10 (range, 5-10)
  - Mean key pinch improved by 25%
  - Mean grip strength improved by 42%

- At the lastest follow up:
  - No prostheses required revision surgery
  - No dislocation

- Radiological complications at the lastest follow up:
  - 1 sinking or edging around the cup (3.4%)
  - 1 sinking or edging around the stem (3.4%)
  - 1 appearance of scapho-trapezo-trapezoid arthritis (3.4%)
  - 5 appearance of calcifications (17.2%)

⇒ 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 in a minimum of 5 years’ follow up
- Mean motion and strength increased whereas pain decreased after surgery and these results remained constant within the follow-up period

Bibliography