

E-poster 45: CapFlex-PIP© - A new modular surface-gliding arthroplasty. First mid-term results

Category: Treatment, Surgical Technique, Prognosis/Outcomes

Keyword: Hand and Wrist

Level 4 Evidence

- Stephan F Schindele, MD
- ◆ Laurent Audigé, MVM, PhD
- ◆ Stefanie Hensler, MSc
- ◆ Miriam Marks, MS
- Daniel B Herren, MD

Hypothesis:

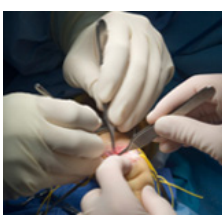
The CapFlex-PIP© is a new modular non-cemented surface-gliding implant for PIP-arthroplasty (Figure 1) which should preserve bone stock and the collateral ligaments to provide long-term improvement in pain and function, as well as in joint axis deviation and lateral stability. Following a pilot study, a clinical register was initiated to investigate the clinical, subjective and radiographic outcomes in all patients.

Methods:

Patients with primary or secondary osteoarthritis of the PIP joint were operated by three surgeons using either the volar or dorsal approach described by Chamay. Preoperatively, after 6 weeks, 3, 6 and, 12 months range of motion (ROM) of the PIP joint and grip strength were assessed. In addition the first pilot patients were examined 24-36 months after surgery. Patients rated their pain on a numeric rating scale (NRS) and filled out the quick Disabilities of the Arm, Shoulder and Hand Outcome Questionnaire (quick DASH), and the Patient Evaluation Measure (PEM), part 2. Standard ap and lateral radiographs were taken. The Wilcoxon signed-rank test was used to assess differences of the subjective and objective clinical parameters between preoperatively and at last time of follow up. Mean outcome changes with 95% confidence intervals are presented.

Results:

Fifty-four patients (33 female, 21 male) with a mean age of 63.8 years (± 12.4) were documented (Figure 2). The active range of motion of affected PIP joint increased slightly from 45.5° (± 19.3) preoperatively to 49.8° (± 21.9) after one year ($p=0.18$). A mean improvement of 14.9° was noted on the first 7 patients at 2-3 years. Patients reported a significant pain relief from preoperatively 7.9 (± 0.4) to 1.1 (± 1.5) at 12 months follow-up ($p=0.018$). Compared to preoperatively there was

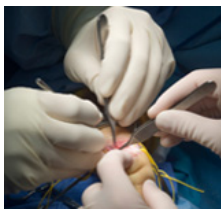


also a significant improvement in the quick DASH by 28.4 (± 17.5) points from preoperatively to after one year ($p=0.007$). All implants remained intact over the postoperative time and no migration, no osteolysis and no implant fractures occurred. At the 2-3 years examination, 2/3 of examined patients had their longitudinal axis deviation improved to normal.

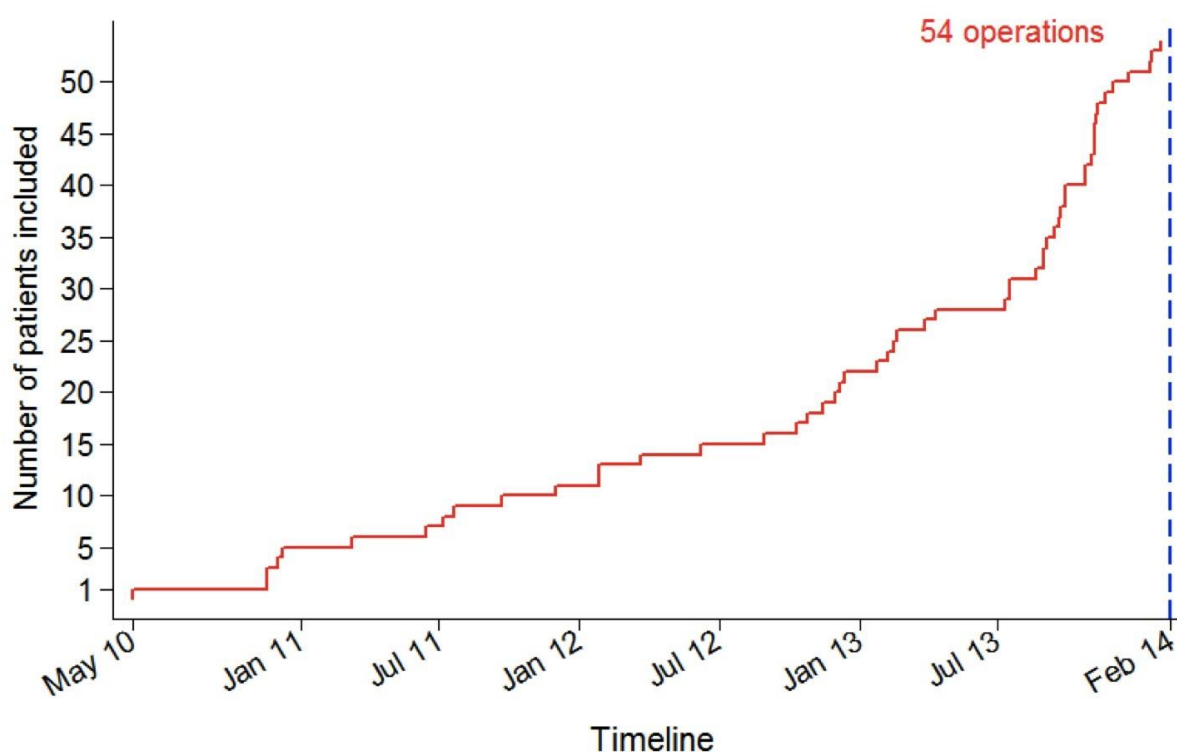
Summary Points:

The use of the CapFlex PIP[®] implant provided overall satisfactory results one to three years after surgery in particular to lateral stability at the radial fingers. All implants showed no evidence of radiological migration. The positive subjective and clinical outcomes confirm the radiological results. Further mid- and long-term evaluations are ongoing.





CapFlex-PIP register (2010 – 2014)



- Royalty: KLSMartin (Schindele, Herren)
- Consulting Fee: DePuy-Synthes (Herren)
- ◆ No relevant financial relationships to disclose