3 to 5 Year Outcomes of MOJE Arthroplasty for Hallux Rigidus

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Aim: To assess medium term results of Moje arthroplasty for degenerative Hallux Rigidus.

Materials and Methods: Patients over 18 years of age with symptomatic degenerative hallux rigidus, with at least 3 years follow up were included in the study. Patients who had previous surgery for hallux rigidus were excluded. A press fit Moje ceramic on ceramic prosthesis was implanted using the standard technique. Patients were non-weight bearing for the initial two weeks followed by physiotherapy according to the Moje protocol. All patients were assessed radiologically and clinically using the AOFAS (American Orthopaedic Foot and Ankle Society) and Foot Function Index (FFI – R, short form) as the primary outcome measure and a Visual Analogue Pain score (VAS) as the secondary outcome measure. Radiological assessment was carried out independently by two authors. Prosthesis loosening was defined as more than 5mm subsidence (sum of proximal and distal components), implant tilting and presence of osteolytic lesions. Revision of arthroplasty was taken as an end point to define failure.

Results: 27 Moje replacements of the first metatarso-phalangeal joint in 25 patients operated by one surgeon were included in the study. There were 22 female and 3 male patients with a mean age of 61 (range: 48-83). Mean preoperative range of movement (sum of dorsi and plantar flexion) was 31 deg (range: 10-65). Mean preoperative FFI – R score was 100 (range: 53-183); mean preoperative AOFAS score was 45 (range: 28-64); mean preoperative VAS was 8 (range: 3 -10). The average follow up was 49 months (range: 36-60). There were no wound complications. Postoperatively, 5 joints (19%) required closed manipulation and 3 joints (11%) required open arthrolysis to improve the range of movement. 3 joints (11%) drifted into valgus, 2 of them requiring a corrective Akin osteotomy of the proximal phalanx. One patient (4%) required open reduction for dislocation and one patient required excision of the medial sesamoid for persistent pain. In all, 12 replacements (44%) were symptomatic enough to require a further procedure. None of the joints required revision. The mean postoperative range of movement was 35 (range: 15-60, p=0.85 statistically not significant, Relative Risk=1.069, 95% Confidence Interval: 0.72-1.59). There was improvement in postoperative FFI–R score (mean:41,Range:27-66,p=0.007 statistically significant, RR=0.53,95%CI:0.34-0.83), AOFAS score (mean:83,range:68-100,p=0.07, statistically not quite significa nt,RR:1.5,95%CI:0.98-2.38) and VAS (mean:1,range:0-5,p=0.04 statistically significant,RR:0.80,95%CI:0.0 .66-0.97). Radiologically, there were signs of loosening of prosthesis in 4 joints (15%) without an adverse outcome in pain and functional scores.

Discussion: There is a high incidence of stiffness requiring further surgical procedure to improve the range of movement following this replacement. Although pain and function scores improve with Moje arthroplasty, patients should be counselled that their range of movement may not improve and annual long term clinical and radiological surveillance would be necessary to assess the integrity of this prosthesis. Further studies including larger number of patients with longer follow up are required to assess the long term results of this procedure.