Outcomes of Silastic Joint Implants of the 1st MTPJ using FAOS Foot & Ankle Survey

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Purpose: A retrospective study investigating the outcome and patient satisfaction of the first metatarsophalangeal joint (MTPJ) silastic implant using the Foot and Ankle Outcome Score (FAOS) survey.

Hypothesis: Silastic implants of the first MTPJ show improvement in pain, symptoms, and overall function based on the FAOS.

Methodology: Twenty patients who underwent 1st MTPJ joint silicone implants were seen at 1, 2, 6 weeks and PRN after surgery with an average follow up of 26 months. AP and Lateral radiographs were obtained at follow up visits. Patients received a FAOS survey in the mail or by phone. The FAOS is a region-specific outcome instrument which contains 42 question items organized within 5 subclasses: pain, other symptoms, activities of daily living, sports and recreational activities, and ankle related quality of life[1]. Of 20 patients, 12 responded by rating each FAOS question as 0 (none), 1 (mild), 2 (moderate), 3 (severe), or 4 (extreme). Patients that obtained this survey had surgery from 2011- 2016. The mean age of each subject was 58 years of age (range 37 to 79). There were 8 females and 4 males in this study.

Literature Review: Hallux rigidus is a progressive condition that results in decreased or absent motion of the first MTPJ with accompanied pain and crepitus[2]. A variety of conservative and surgical treatment options for hallux rigidus range from cheilectomy, resection arthroplasty, arthrodesis, and joint implants. The advantage of a joint implant is that it preserves the range of motion of the first MTPJ and does not require casting or fixation. Risks of this procedure include joint stiffness, implant rejection/silicone reaction, and increased risk of infection[4]. Currently, there is great concern regarding the complications of the silicone implant and its outcomes.

Pre-op

Post-op

Procedures: Patient criteria for procedure selection was based on clinical and radiographic evidence of hallux rigidus, Coughlin grades 2/3. All patients were brought into the OR under MAC anesthetic with a local block. A linear and longitudinal incision was made overlying the dorsal aspect of the first MTPJ. Anatomic dissection was carried down through skin and subcutaneous tissue to allow visualization of the capsular structures. The incision was carried down to preserve and reflect the capsular tissue to expose the base of the proximal phalanx and the head of the1st metatarsal. At this time, all exophytic bone growth was removed using a rongeur or burr. A resection of both proximal phalanx base and metatarsal head was performed using a sagittal saw. The cuts were made perpendicular to the weightbearing surface. Intramedullary canal preparation was obtained using a 4.0-mm oval burr in the metatarsal and the proximal phalanx. After determining a size, the silastic implant was then inserted into the metatarsal and proximal phalanx where range of motion was noted to be improved in all patients. Following the procedure, all patients were allowed to be weightbearing as tolerated in a surgical shoe.

Results: 12 of 20 patients with silastic implants of the 1st MTPJ from 6/17/2011 through 9/16/2016 responded to the FAOS survey. Based on 42 question items, 10 (83%) reported an overall decrease in symptoms, 10 (83%) reported a decrease in pain, 9 (75%) reported no difficulty with daily activities, 7 (58%) reported no difficulty in recreational activities, and 7 (58%) showed a general improvement in quality of life. A general overall improvement was noted in symptoms, pain, and daily activities. However, there seemed to be no improvement of recreational activities and overall quality of life in 7/12 of the patients.

Discussion: To our knowledge, there have been no recent studies addressing patient satisfaction regarding silicone joint implants of the first MTPJ. Authors have cited a number of potential complications such as possible silicosis, bone overgrowth, loosening of the implant, continued pain, and the loss of toe purchase which have greatly affected its use in procedure selection. Based on our research, silicone implants continue to be a viable alternative for surgical correction of hallux rigidus producing improved results in symptoms, pain, and daily activities.

References:

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