Comparison of Arthrodesis and Metallic Hemiarthroplasty of Hallux Metatarsophalangeal Joint

Reference:

Scientific Literature Review

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Podiatric Relevance:
This study provides useful data for comparison of two current treatment regimes used to provide relief to the aging yet actively demanding patient.

Methods:
Forty-six patients, retrospective study. All had osteoarthritis of the first metatarsophalangeal joint with pain. Any variables such as joint instability, infections, rheumatologic or neuroarthropathies were excluded. They were either treated with arthrodesis or metallic hemiarthroplasty using the BIOPRO hemi-prosthesis. Study was conducted between 1999-2005. Postoperative satisfaction and functional outcome scores were assessed using the American Orthopaedic Foot and Ankle Society Hallux Metatarsophalangeal (AOFAS-HMI) scoring system. Pain was scored separately using a subjective visual analogue scale from 0 to 10.

Results:
Twenty-seven arthrodeses and twenty-one hemiarthroplasties were performed. Of the joint hemiarthroplasties, five failed, one was revised, seven had evidence of plantar cutout to the prosthetic stem on final follow-up radiograph and four converted to arthrodeses. Mean follow up of 79.4 months, satisfaction scores for this group was good or excellent for twelve feet, fair in two, and poor or failure for seven. Mean pain scores were 2.4 out of 10. Plantar callosities on average in one out of thirteen patients. In the arthrodesis group, 100% achieved fusion with no revisions. Mean final follow-up at 30 months with satisfaction ratings of good to excellent in twenty two feet, fair in four and poor for one. The mean pain score was 0.7 out of 10. Overall, the AOFAS-HMI functional score, satisfaction levels, and visual analogue pain scale scores were all better to statistically significant levels using (P values).

Conclusions:
On the basis of these findings, arthrodesis is more predictable and offers better results than the hemi-prosthesis group in patients with severe osteoarthritis of the first metatarsophalangeal joint but other comparative studies are needed.