Abstract

If operative treatment is opted for grade III and IV osteoarthritis of the first metatarsophalangeal joint, arthrodesis is considered standard care. However, if preservation of joint mobility is preferred, implant arthroplasty could be favoured. Previous studies suggest hemiarthroplasty might result in less pain, better function and higher patient satisfaction compared to arthrodesis. However, these studies only evaluated short-term (range 2.2-6.6 years) results.

The aim of our study was to determine whether patients treated with hemiarthroplasty showed better postoperative outcomes compared to those treated with arthrodesis after a period of at least 5 years after surgery. The American Orthopaedic Foot and Ankle Society Hallux Metatarsophalangeal Interphalangeal (AOFAS-HMI) scale score was measured as primary outcome. Secondary outcomes addressed satisfaction rates, recommendation of the performed procedure and number of unplanned surgical repeat procedures. We also addressed influence of the procedures on daily activities (work as well as sports), influence of smoking on postoperative results and costs for both procedures.

A total of 47 primary arthrodeses and 31 hemiarthroplasties performed between January 2005 and December 2011 were evaluated. After a mean follow-up of 8.3 years (range 5-11.8) the mean AOFAS-HMI scale score after arthrodesis and after hemiarthroplasty were 72.8±14.5 and 89.7±6.6, respectively ($p = .001$). Patients were significantly more pleased after hemiarthroplasty ($p < .001$) and this procedure was better recommended ($p < .001$). The number of unplanned repeat surgical procedures did not differ between the two groups. Patients resumed sports activities significantly sooner after hemiarthroplasty ($p = .002$). Overall costs were similar for both procedures.

Our study shows more favorable post-operative results for hemiarthroplasty compared to arthrodesis as operative treatment for osteoarthritis of the first metatarsophalangeal joint after a mean follow-up of 8,3 years.

***Note**: It should be noted that the results are only presented as an ePoster at the AOFAS Annual Meeting in Seattle last July. We hope we can discuss our results by an oral presentation too.*