Joint Debridement and Calcaneal Osteotomy with Reconstruction of Lateral Ligament for Treatment of Early Stage Osteoarthritis of the Ankle

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PURPOSE:
The purpose of this study was to investigate the clinical, radiologic results of joint debridement and calcaneal osteotomy with lateral ligament reconstruction for the treatment of early stage or moderate osteoarthritis of the ankle.

METHODS:
There were 11 cases with osteoarthritis of the ankle, 4 of which had stage 2 and 7 of which had stage 3 osteoarthritis of the ankle according to the radiographic classification of Takakura et al. Joint debridement, lateral displacement with closing wedge osteotomy of the calcaneus and lateral ligament reconstruction were performed. The mean follow-up was twenty seven (range 17 to 38) months. Before surgery and at the most recent follow-up, clinical evaluations were assessed using American Orthopaedic Foot and Ankle Society(AOFAS) ankle-hindfoot scale. On standing radiography, talar tilt angles, medial clear space, lateral clear space were measured. The ratio of medial clear space to lateral clear space was calculated.

RESULTS:
The mean AOFAS score was improved from 42.8 points before surgery to 83.7 points at the last follow-up. The mean talar tilt angles were 7.36 degrees before surgery and 5.91 degrees at the last follow-up. The mean medial clear space was widened from 0.36 mm before surgery to 2.66mm at the last follow-up. The lateral clear space was narrowed from 6.75mm before surgery to 4.77mm. The medial to lateral clear space ratio was improved from 0.05 before surgery to 0.62.

CONCLUSIONS:
Joint debridement and calcaneal osteotomy with lateral ligament reconstruction can be recommended for treatment of the early stage osteoarthritis of the ankle.