

# Comparison of Intermediate-Term Clinical Outcomes between Medial and Lateral Osteochondral Lesions of the Talus Treated with Autologous Osteochondral Transplantation

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## INTRODUCTION:

The conventional surgical method to treat osteochondral lesions of the talus (OLT) is the cartilage repair through bone marrow stimulation (BMT). Autologous osteochondral transplantation (AOT) is being used as an alternative option in cases with a large OLT, accompanying subchondral cyst, and failure of the BMT. Although there have been various reports on the clinical results following the surgical treatment for the medial osteochondral lesion, those for the lateral lesions are rare. We aimed to compare the intermediate-term radiologic and clinical results between the both lesions after AOT.

## METHODS:

Among the patients who underwent AOT from April 2009 to May 2000, 60 cases with a follow up of at least 3 years were included in this retrospective study. There were 20 cases of lateral lesions (lateral group), and 40 cases of medial lesions (medial group) were selected by matching age and gender. All surgery was performed by a senior surgeon. The mean age of patients at the time of surgery was 35.8 years and the mean follow-up period was 65.6 months. Clinical assessment was performed using the FAOS (foot and ankle outcome score) and FAAM (foot and ankle ability measure). Radiographic assessment included the irregularity of the articular surface, the progression of joint degeneration, and the change of the talar tilt.

## RESULTS:

The mean FAOS significantly improved after surgery in both groups: from an average of 38.6 points in the medial group and 40.2 points in the lateral group preoperatively to 70.5 and 81.8 points at 6 months postoperatively, and 87.6 and 89.4 points at final follow up, respectively. After 6 months postoperatively, there was no significant difference between the two groups. The mean FAAM scores of both groups significantly improved from an average of 36.1 points in the medial group and 39.4 points in the lateral group preoperatively to 75.3 and 87.2 points at 1 year postoperatively, and 87.2 and 89.8 points at final follow up, respectively. Up to 1 year postoperatively, there was significant difference between the groups. Although there were no differences in the occurrence of wound complications, nerve injuries, and donor site morbidity between the two groups, delayed union or malunion of the medial malleolar osteotomy was found in 5 cases (12.5%) in the medial group. The progression of the joint degeneration was observed in 4 cases (10%) of the medial group, however, the revision procedure was not required. There were no significant differences in the irregularity of the articular surface and the change of the talar tilt between two groups.

## DISCUSSION AND CONCLUSION:

A comparison between medial and lateral OLTs treated with auto-osteochondral transplantation demonstrated the comparable intermediate-term clinical outcomes. However, the patients with medial OLT needed a longer period to restore ability for daily and sport activities. In addition, there were specific complications related to medial malleolar osteotomy, and higher rate of progression in radiological arthritis grade.

