

## **Outcomes Following Autologous Osteochondral Transplantation for Osteochondral Lesions of the Talus at A Minimum of 10-Year Follow-Up: A Retrospective Review**

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**INTRODUCTION:** The purpose of this study was to evaluate outcomes following autologous osteochondral transplantation (AOT) for the treatment of osteochondral lesions of the talus (OLT) at a minimum of 10-year follow-up.

**METHODS:** Retrospective chart review identified patients who underwent AOT for the treatment of OLT. Pre-operative magnetic resonance imaging (MRI) scans were obtained in all patients. Clinical outcomes assessed included: pre- and post-operative foot and ankle outcome score (FAOS), visual analog scale (VAS), patient satisfaction, complications, failures and secondary surgical procedures.

**RESULTS:** Thirty-nine patients with a mean lesion size was  $122.3 \pm 64.1$  mm<sup>2</sup> and mean follow-up time of  $138.9 \pm 16.9$  months were included. The mean FAOS scores improved from a preoperative score of  $51.9 \pm 16.0$  to  $75.3 \pm 21.9$  ( $p < 0.001$ ). Increasing lesion size was variable associated with inferior FAOS scores ( $R^2 = 0.2228$ ). There was statistically significant higher mean T2 relaxation values at the superficial layer at the site of the AOT graft ( $42.9 \pm 5.2$  ms) compared to the superficial layer of the adjacent native cartilage ( $35.8 \pm 3.8$  ms) ( $p < 0.001$ ). Seventeen complications (43.6%) were observed, the most common of which was anterior ankle impingement (25.6%). There were 2 failures (5.1%), both of which had a history of prior bone marrow stimulation via microfracture and post-operative cysts identified on MRI.

**DISCUSSION AND CONCLUSION:** This retrospective review found that AOT for the treatment of large OLTs produced a 94.9% survival rate at a minimum of 10-year follow-up. Increasing lesion size was associated with inferior clinical outcomes. The findings of this study indicates that AOT is a viable long-term surgical strategy for the treatment of large OLTs.