

Mid-term outcomes of all-arthroscopic autologous matrix-induced chondrogenesis for osteochondral lesions of the talus

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Introduction: Open approaches for autologous matrix-induced chondrogenesis (AMIC) in osteochondral lesions of the talus (OLT) may be associated with relevant morbidity. This study aimed to evaluate the effectiveness of the all-arthroscopic technique (AT-AMIC), with a focus on mid-term functional outcomes and complication rates.

Methods: This retrospective multicenter case series included 64 patients (39 men, 25 women; 18-71 years) with symptomatic OLTs confirmed by magnetic resonance imaging, treated with AT-AMIC. The procedure included lesion debridement, subchondral bone microfracture, autologous cancellous bone grafting when needed, and implantation of a porcine bilayer collagen matrix (Chondro-Gide). Functional outcomes were assessed using the AOFAS score, with a mean follow-up of 44 months (31-62). The Wilcoxon test was used, with significance set at 5% ($p < 0.05$).

Results: Mean lesion size was 112 mm², with predominance in Raikin zone 4 (54.68%). Mean AOFAS score improved from 51.58 preoperatively to 89.64 at final follow-up ($p < 0.0001$). Seven patients (11%) had treatment failure due to complications, including membrane detachment, membrane hypertrophy, or lesion recurrence. No significant correlation was found between lesion size or symptom duration and clinical outcome.

Conclusions: AT-AMIC is a reproducible method for treating OLTs, with statistically significant mid-term clinical improvement. Further comparative studies are needed to confirm long-term efficacy.

Keywords: Talus; lesions; Arthroscopy.

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