Arthroscopic autologous-matrix induced chondrogenesis in association with microfractures and autologous bone graft for the treatment of osteochondral talar lesions in young patients
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Introduction/Purpose: The purpose is to evaluate the clinical and radiological outcomes of patients younger than 20 years, treated with the arthroscopic-talus autogolous matrix-induced chondrogenesis (AT-AMIC®) technique and autologous bone graft for osteochondral lesion of the talus (OLT) at a follow-up of 24 months.

Methods: 13 patients under 20 years (range 13.2 – 19.85) underwent the AT-AMIC® procedure and autologous bone graft for OLTs. Patients were evaluated pre-operatively (T0) and at 6 (T1), 12 (T2) and 24 (T3) months postoperatively, using the AOFAS score, the VAS and the SF-12 respectively in its Mental (MCS) and Physical component (PCS). Radiological assessment included CT-scan, MRI and intraoperative measurement of the lesion. A multivariate statistical analysis was performed.

Results: Mean size lesion measured during surgery was 1.1102 cm³ ± 0.518 cm³. We found a significant difference in clinical and radiological parameters with ANOVA for repeated measures (p<0.001). All clinical scores significantly improved (p<0.05) from T0 to T3. Lesion area significantly reduced from 120.12 ± 29.58 mm² pre-operatively to 75.78 ± 15.00 mm² (p<0.05) at final follow-up as assessed by CT, and from 133.32 ± 32.42 mm² to 83.45 ± 15.54 mm² (p<0.05) as assessed by MRI. Moreover we noted an important correlation between intra-operative size measurement of the lesion and BMI (p=0.0114).

Conclusion: The technique can be considered safe and effective, reporting early good results in young patients. Moreover we demonstrated a significant correlation between BMI and lesion size and a significant impact of OLTs on quality of life.

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