The role of bone marrow edema on autologous matrix induced chondrogenesis for the treatment of osteochondral lesions of the talus
Riccardo D’Ambrosi, MD, Camilla Maccario, MD, Federico Giuseppe Usuelli, MD

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Introduction/Purpose: to assess the functional and radiological outcomes after AT-AMIC® (arthroscopic talus autologous matrix induced chondrogenesis) in 2 groups: patients with and without bone marrow edema (BME).

Methods: Thirty-seven patients of which 24 without edema (GNE) and 13 with edema (GE) were evaluated. All patients were treated with AT-AMIC® repair for osteochondral talar lesion. MRI and CT-scan evaluations, as well as clinical evaluations measured by the VAS score for pain, AOFAS and SF-12 were performed preoperatively (T0) and at 6 (T1), 12 (T2), and 24 (T3) months postoperatively.

Results: GNE consisted of 24 patients while GE consisted of 13 patients. In both groups we found a significant difference for clinical and radiological parameters with ANOVA for repeated measures through four time points (p<0.001). In GNE, AOFAS improved significantly at each follow-up (p<0.05); while CT and MRI showed a significant decrease between T1 and T2 and T2 and T3 (p<0.05). In GE, AOFAS improved significantly between T0 and T1 and T2 and T3 (p<0.05); CT decreased between T1 and T2 (p<0.05), while MRI showed a reduction at each follow-up (p<0.05). Lesion size was significantly higher both in MRI and CT in GE in respect to GNE (p<0.05). In the GNE no patients presented edema at T3, while in GE only 23.08% of the patients presented edema at T3.

Conclusion: The study revealed that osteochondral lesions of the talus were characterized by bigger size both in MRI and CT in patients with edema. We conclude that AT-AMIC® can be considered a safe and reliable procedure that allows effective healing, regardless of edema and more than half of patients did not present edema six months after surgery.