

## Functional Medium-Term Results After Autologous Matrix-Induced Chondrogenesis for Osteochondral Lesions of the Talus: A 5-Year Prospective Cohort Study

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Autologous matrix-induced chondrogenesis (AMIC) has gained popularity in the treatment of osteochondral lesions of the talus. Previous studies have presented promising short-term results for AMIC talar osteochondral lesion repair, a 1-step technique using a collagen type I/III bilayer matrix. The aim of the present study was to investigate the mid-term effects. The 5-year results of a prospective cohort study are presented. All patients underwent an open AMIC procedure for a talar osteochondral lesion. Data analysis included general demographic data, preoperative magnetic resonance imaging findings, intraoperative details, and German version of the Foot Function Index (FFI-D) scores preoperatively and at 1 and 5 years after surgery. The primary outcome variable was the longitudinal effect of the procedure, and the influence of various variables on the outcome was tested. Of 47 consecutive patients, 21 (45%) were included. Of the 21 patients, 8 were female (38%) and 13 were male (62%), with a mean age of  $37 \pm 15$  (range 15 to 62) years and a body mass index of  $26 \pm 5$  (range 20 to 38) kg/m. The defect size was  $1.4 \pm 0.9$  (range 0.2 to 4.0) cm. The FFI-D decreased significantly from preoperatively to 1 year postoperatively ( $56 \pm 18$  versus  $33 \pm 25$ ;  $p = .003$ ), with a further, nonsignificant decrease between the 1- and 5-year follow-up examination ( $33 \pm 25$  versus  $24 \pm 21$ ;  $p = .457$ ). Similar results were found for the FFI-D subscales of function and pain. The body mass index and lesion size showed a positive correlation with the preoperative FFI-D overall and subscale scores. These results showed a significant improvement in pain and function after the AMIC procedure, with a significant return to sports by the 5-year follow-up point. The greatest improvement overall was seen within the first year; however, further clinical satisfaction among the patients was noticeable after 5 years.

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