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2015 AAOS Annual Meeting

Presentation Abstract

Session:	P106-P205-Adult Reconstruction Knee Posters
Date/Time:	Tuesday, March 24th through Friday, March 27th, 7:00 AM - 6:00 PM, and Saturday March 28th, 7:00 AM - 3:00 PM
Location	Academy Hall G
Presentation Number:	P186
Posterboard Number:	P186
Title:	Cell-free Collagen Type I Matrices in Treatment of Cartilage Defects of the Knee: Clinical and MRI Evaluation
Classification:	+Non-Arthroplasty Management of Arthritis (including Osteotomy) (Knee)
Keywords:	Miscellaneous; Knee Arthroscopy

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Abstract:
INTRODUCTION: Aim of the present study was to evaluate the short-term efficacy of cell-free collagen type 1 matrices in the treatment of large articular cartilage defects of the knee joint.
METHODS: Articular cartilage defects of the knee with a mean defect-size of 4,33 cm2 were treated in 28 patients using cell-free collagen type I gel matrices. Implantation was performed after defect debridement down to, but without penetration of, the subchondral bone. Clinical outcome was measured with various scores including the IKDC score and SF-36, a VAS as well as the Tegner activity scale. Cartilage transformation was evaluated morphologically using the MOCART score at six, 12 and 24 months postoperatively in follow-up MRI. Clinical examinations were scheduled three, six, 12, and 24 months after the initial surgery.
RESULTS: Twenty-eight patients with a mean age of 33 years could be included in this study. Mean IKDC after three months and mean SF-36 after six months showed significant improvement as compared to preoperative values. This improvement could be maintained until the latest follow up. No significant differences between preoperative and postoperative Tegner values could be noted. VAS showed a significant improvement. MR-imaging showed complete integration at the border zones or only minimal gaps. Defects were filled completely or at least 50%. Only one patient showed a disintegration of the graft.
DISCUSSION AND CONCLUSION: Cell-free collagen type I matrices achieve sustainable clinical improvement and good magnetic resonance imaging results 24 months after surgery. However long-term results are needed to support these findings and clarify if there is a significant difference to the baseline.