Results after microfracture of full-thickness chondral defects in different compartments in the knee.

Standard microfracture surgical results may deteriorate with time. Other studies dispute this claim - Kelly Cunningham, MD

Abstract

OBJECTIVE: To determine if the clinical results after microfracture of full-thickness cartilage lesions deteriorate over a period of 36 months.

METHODS: Between 1999 and 2002 85 patients (mean age 39.5 years) with full-thickness cartilage lesions underwent the microfracture procedure and were evaluated preoperatively and 6, 18 and 36 months after surgery. Exclusion criteria were meniscal pathologies, axial malpositioning and ligament instabilities. Baseline clinical scores were compared with follow-up data by paired Wilcoxon-tests for the modified Cincinnati knee and the International Cartilage Repair Society (ICRS)-score. The effects of the lesion localization and Magnetic resonance imaging (MRI) parameters were evaluated using the Pearson correlation and independent samples tests.

RESULTS: Both scores revealed significant improvement 18 months after microfracture (P<0.0001). Within the second 18 months after surgery there was a significant deterioration in the ICRS-score (P<0.0001). The best results could be observed in chondral lesions of the femoral condyles. Defects in other areas of the knee deteriorated between 18 and 36 months after microfracture. MRI 36 months after surgery revealed best defect filling in lesions on the femoral condyles with significant difference in the other areas (P<0.02). The Pearson coefficient of correlation between defect filling and ICRS-score was 0.84 and significant at the 0.01 level.

CONCLUSIONS: Microfracture is a minimal invasive method with good short-term results in the treatment of small cartilage defects. A deterioration of the results starts 18 months after surgery and is most evident in the ICRS-score. The best prognostic factors have young patients with defects on the femoral condyles.

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