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Treatment of Acetabular Chondral Defects in Femoral Acetabolar Impingement. Autologous Matrix Induced Chondrogenesis Vs Microfractures. A 5-Year Follow-Up Study

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Summary:
MFx and AMIC therapy improve clinical outcomes associated with repair of acetabular chondral damage. The AMIC group showed long term durable improvement, scoring significantly better than the MFx group, particularly in large (=4 cm2) lesions over the 2 – 5 year period examined.

Abstract:
Repair of chondral lesions stemming from femoroacetabular impingement requires specific therapeutic approaches, in addition to impingement treatment. This retrospective analysis of consecutive patients from a single centre compares microfracture (MFx) with the enhanced microfracture autologous matrix-induced chondrogenesis (AMIC) technique. The treatment modalities differ in that the AMIC procedure incorporates a collagen matrix, used to cover and protect the blood clot generated by microfracture (MFx).
Acetabular chondral lesions ranging from 2 to 8 cm2 in 77 and 70 patients were treated by MFx or AMIC, respectively. Treatment outcomes were assessed by the modified Harrison Hip Score with follow-up at 6 months, 1, 2, 3, 4, and 5 years. Both MFx and AMIC significantly improved the clinical status at 6 months and 1 year. Over the 2-5 year period, a progressive degradation of functionality was measured in the MFx group, while the positive outcomes of the AMIC group remained stable. In addition, the AMIC treatment group performed significantly better than MFx group at each long-term time point. No conversion to total hip arthroplasty (THA) was observed in the AMIC group, whereas THA was necessary in 7.8% of the patients in the MFx group.
The results of this study provide proof that both MFx and AMIC therapy improve clinical outcomes associated with repair of acetabular chondral damage. The AMIC group showed long term durable improvement, scoring significantly better than the MFx group, particularly in large (=4 cm2) lesions over the 2 – 5 year period examined.