

ABSTRACT

Benefits of the Acetabular Microfracture Technique in Arthroscopic Treatment of Chondral Defects in Femoroacetabular Impingement Syndrome – Two-year(s)? Results of a Multicenter Prospective Randomized Study.

Purpose of the study

Two-year clinical results of a multicenter prospective randomized study in patients with arthroscopically treated Femoroacetabular Impingement syndrome and concurrently performed microfracture for grade IV chondral lesions of the acetabulum.

Material and methods

The study evaluated a group of 55 patients of the originally enrolled 92 patients with the underlying diagnosis of FAI syndrome with intraoperatively confirmed grade IV acetabular chondropathy of up to **4 cm²** in size, who had undergone a comprehensive hip arthroscopy (correction of structural cam-type and/or pincer-type deformity, labral refixation or partial labral resection etc.) performed by two experienced surgeons. The patients were randomized intraoperatively using a closed envelope method into two groups. In group 1 (31 patients), microfractures for chondral defects was performed, while in group 2 the patients underwent a defect debridement procedure only. The studied group included a total of 7 professional and 48 recreational athletes (33 men and 22 women), with the mean age of 34.4 in group 1 and 31.1 in group 2. Preoperatively and 6, 12 and 24 months postoperatively the modified Harris Hip Score (mHHS) parameters and VAS score were evaluated and also revision surgeries, conversion to endoprosthesis, and occurrence of complications were recorded.

Results

Preoperatively, no statistical difference between the two groups was found in the studied parameters (mHHS and VAS). Postoperatively (after 6, 12 and 24 months), in both groups a statistically significant increase in mHHS and VAS score was reported. When comparing the mHHS parameter at individual evaluated times in Group 1 and Group 2, a statistically significant difference was confirmed at 12 and 24 months after surgery ($P < 0.001$), namely in

favour of Group 1. At 6 months postoperatively, no statistically significant difference in this parameter between the two groups was confirmed ($P = 0.068$). When comparing the VAS score parameter in these two groups at individual times, no statistically significant difference was confirmed at 6 and 12 months after surgery ($P = 0.83 / P = 0.39$). A statistically significant difference in the VAS score parameter was observed only at 24 months after surgery, namely in favour of Group 1 ($P < 0.037$). In the course of the follow-up period, altogether 3 patients (2 patients from Group 1) were indicated for revision hip arthroscopy and in 1 female patient an endoprosthesis was implanted. No severe intraoperative or postoperative complications were observed.

Discussion

In agreement with other authors worldwide, the arthroscopic treatment of FAI syndrome, if indicated and performed correctly, was confirmed to improve the clinical condition of patients postoperatively, regardless of the technique used in treating the chondral defect. Based on our results as well as conclusions of other world authors, in treating the grade IV defects of smaller size it is appropriate in treating the cartilage to prefer the microfracture surgery, which is less demanding both technically and financially and contrary to mere debridement allows to fill the original defect by fibrocartilage tissue.

Conclusions

The benefits of the acetabular microfracture in patients with the FAI syndrome treated arthroscopically were confirmed. A statistically significant difference between the two studied groups was reported in the mHHS parameter at 12 and 24 months after surgery and also in the VAS parameter at 24 months in favour of the group with performed microfracture. In both the studied groups, the arthroscopy resulted in a statistically significant improvement of the assessed quality of life parameters.

Key words: hip arthroscopy, femoroacetabular impingement syndrome, chondral defect, microfracture, abrasive chondroplasty.

