
The Comparison of Osteochondritis Dissecans between the Lateral and Medial Femoral Condyles

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Introduction

In this study, we analyzed clinical and radiological features, arthroscopic findings, and results of arthroscopic treatments for OCD of both condyles.

Material and Methods

Forty-nine patients (54 knees) were treated by one surgeon under the arthroscopic guidance between June 1994 and March 2002. The patients included 38 males and 11 females. OCD affected the lateral femoral condyle in 21 knees of 20 patients (lateral group) and affected the medial femoral condyle in 33 knees of 29 patients (medial group). The age of the lateral group ranged from 16 to 51 years with a mean of 25.9 years and the average follow-up period was 30.3 months (range, 24 to 50 months). Three of 21 knees had open physes. The average age of the medial group ranged from 11 to 29 years with a mean of 18.3 years and the average follow-up period was 30.4 months (range, 24 to 75 months). Eighteen of 33 knees had open physes. The cross-sectional area and the location of OCD lesions on MR images were measured. Bruckle's classification and the method of Desmet et al. were used for radiological staging. The method of Guhl was used for the arthroscopic classification and the method of treatments was based on arthroscopic findings. Multiple drilling, herbert screw fixation, removal of loose bodies were applied. The clinical recovery was analyzed by the criteria of Hughston et al. and successful results were considered to be in the good or excellent categories. The data were analyzed by the Mann-Whitney test and the Fisher's exact test.

Result

Lateral Group; Before the operation, no patient was engaged in specific sport activities. Only one case had open physis. The most frequent location of lesions was between 7:10 and 8:20 on the sagittal plane and all lesions were at the inferocentral portion on the coronal plane of MR images. The average cross-sectional area of lesions was 116 mm². The average of Bruckle's stage was improved from 3.8 before the operation to 2.4 at the latest follow-up period. The average of MR and arthroscopic stage were 3.2. Arthroscopy revealed that eleven of 21 lateral menisci were complete discoid. The clinical recovery was successful in 16 knees (76.2%)

Medial Group; Before the operation, four patients (13.8%) were engaged in regular sport activities and six patients (20.7%) had specific traumatic events. The most frequent location of lesions was between 6:10 and 7:40 on the sagittal plane. On the coronal plane of MR images, there were 25 classical, 4 extended classical, and 4 inferocentral lesions. The average cross-sectional area of lesions was 111 mm². The average of Bruckle's stage was improved from 3.8 to 1.6 at the latest follow-up period. The average of MR and arthroscopic stage were 3.1 and 3.2, respectively. The clinical recovery was successful in 31 knees (93.9%). Fifteen cases exhibited physeal plate closure establishing them as adults. In adults, the average of Bruckle's stage was improved from 3.8 to 1.7. The average of MR and arthroscopic stage were 3.3. The clinical recovery was successful in 14 of 15 knees (93.3%).

Conclusion

In total, radiological (Bruckle's) stages improved more significantly ($P = 0.001$) in the medial group than the lateral group and the clinical recovery was more successful ($p = 0.096$). In adults, radiological (Bruckle's) stages improved more significantly ($P = 0.025$) in the medial group (15 cases) than the lateral group and the clinical recovery was more successful. There, however, was no statistical significance ($p = 0.35$). In the medial group, there was no difference between adults and children in the radiological improvement and the clinical recovery.

Key word: Osteochondritis dissecans, Lateral and medial femoral condyles