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Arthroscopic Labral Preservation and Femoroacetabular Impingement Correction in Patients Over 70 Years of Age

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Summary:
Arthroscopic femoroacetabular impingement (FAI) collection and preservation of hip labrum can provide favorable short-time clinical outcome for FAI in patients over 70 years of age, although the rates of irreparable labrum and severe chondral lesions of acetabular rim were significantly higher than those in young patients.

Abstract:
BACKGROUND
There is a dearth of literatures regarding clinical outcome of arthroscopic treatment for femoroacetabular impingement (FAI) in the Japanese older population.

PURPOSE
The purpose of this study was to define the clinical outcome of arthroscopic labral preservation and FAI correction in patients over 70 years of age.

METHODS
In this study, we retrospectively reviewed 92 patients who underwent hip arthroscopy for FAI between March 2009 and February 2013. The mean follow-up was 1.6 years (1 to 4). We excluded patients with moderate and severe osteoarthritis (Tonnis grade 2 and 3), dysplastic hip (CE angle < 25°), bilateral hip, synovial osteochondromatosis, trauma and previous hip surgery. All patients underwent arthroscopic FAI correction (rim trimming, labral refixation or reconstruction, cam osteochondroplasty and capsular plication) performed by single surgeon (senior author S.U). We also performed micro-fracture for severe chondral lesions of acetabular rim, and labral reconstruction using iliotibial band autograft in case of degenerative and irreparable labrum. Patients were divided into three groups according to their age. Older group consisted of 6 patients (5 men and 1 woman) over 70 years of age (mean age: 73.0 years). Middle group consisted of 24 patients (10 men and 14 women) aged from 50 to 69 years (mean age: 57.4 years). Younger group consisted of 62 patients (26 men and 36 women) less than 50 years of age (mean age: 31.1 years). Labral condition and chondral lesions of acetabular rim were evaluated at the time of surgery. We used multicenter arthroscopy hip outcome research network (MAHORN) classification to evaluate chondral lesions of acetabular rim, and we defined grade 4 or 5 as severe chondral lesions. Hip function was assessed before and after surgery (at the time of last follow-up) using the modified Harris Hip Score (MHHS) and radiographic Tönnis classification grades. Comparisons between the three groups were performed using Chi-squared, Kruskal-Wallis, Mann-Whitney U tests and Boferroni correction. The level of significance was set at a probability value of < 0.05.

RESULTS
In older group, the mean MHHS improved from preoperatively (54.1 ± 17.9) to last follow-up (82.3 ± 25.6). The mean MHHS significantly improved from preoperatively to last follow-up in all three groups (P < 0.01). There were no significant differences regarding preoperative and postoperative MHHS among the three groups (P < 0.01). In older

and middle groups, the rates of irreparable labrum and severe chondral lesions of acetabular rim were significantly higher than those in younger group ($P < 0.05$). In older group, the rate of osteoarthritis progression wasn't significantly different from other two groups. In middle group, the rate of osteoarthritis progression was significantly higher than that in younger group ($P < 0.05$).

CONCLUSIONS

Arthroscopic FAI correction and preservation of hip labrum can provide favorable short-time clinical outcome for FAI in patients over 70 years of age.