

Hip Arthroscopy alone for Salvage Treatment of Femoroacetabular Impingement and Concomitant Acetabular Dysplasia has Poor Outcomes: A Comparative Study

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INTRODUCTION: Peri-acetabular osteotomy (PAO) is widely considered the treatment of choice for acetabular dysplasia in young adults without hip osteoarthritis (OA). However, PAO has higher risk of failure in the setting of early OA or advanced patient age. A high percentage of adults with acetabular dysplasia have concomitant femoroacetabular impingement syndrome (FAIS) and associated labrum tears. The short-term efficacy of hip arthroscopy alone as a salvage procedure for acetabular dysplasia and concomitant FAIS in patients over 40 years and/or with early arthritic changes is unclear.

METHODS: This single center study compared 2-year patient-reported outcome measures (PROMs) and THA conversion rates after hip arthroscopy in adults with FAIS and dysplasia over age 40 and/or with early arthritis changes versus adults with FAIS alone. The dysplasia group (lateral center-edge angle [LCEA] or anterior center-edge angle [ACEA] <20°) consisted of patients >40 years and/or with mild osteoarthritis (Tönnis grade 1 or MRI evidence of early degeneration) not eligible for periacetabular osteotomy. Controls included adult patients without acetabular dysplasia who underwent hip arthroscopy for FAIS from the same time period. PROMs included the international Hip Outcome Tool (iHOT-12), Hip Disability and Osteoarthritis Outcome Score–Physical Function Shortform (HOOS-PS), EQ-5D-5L, MHI-5, UCLA activity scale, Adult SIM, PASS, and THA conversion. Clinical failure was defined as failure to achieve PASS or conversion to THA. Multivariate regression adjusted for confounders, with high-grade cartilage defects analyzed separately.

RESULTS SECTION: A total of 154 patients met inclusion criteria: 14 in the dysplasia group (mean LCEA 23°, range 12–32; ACEA 20°, range 8–25; mean age 41.5 ± 11.4; 11 females [78.6%], 3 males [21.4%]) and 140 controls (mean age 36.0 ± 12.5; 112 females [80.0%], 28 males [20.0%]). The dysplasia group had significantly lower PASS achievement (14.3% vs. 55.0%, p=0.002), lower mean iHOT-12 (38.1 ± 32.1 vs. 61.4 ± 30.2, p=0.03), and lower HOOS-PS (50.6 ± 25.1 vs. 70.1 ± 25.0, p=0.02) (Table 1). THA conversion was markedly higher in the dysplasia group (58% vs. 5%, p<0.001; OR=26.6). In multivariate analysis, dysplasia independently predicted worse outcomes across all PROMs, while intra-operatively identified high-grade cartilage defects predicted THA conversion regardless of dysplasia status (OR=34.2, p<0.001).

DISCUSSION: Hip arthroscopy alone in older (age >40 years) and/or mildly arthritic patients with FAIS and dysplasia is associated with substantially worse PROMs, lower rates of acceptable symptoms, and higher short-term THA conversion than arthroscopy for FAIS alone. These findings suggest limited value of arthroscopy as a standalone salvage procedure in this population.

SIGNIFICANCE/CLINICAL RELEVANCE: Patients with dysplasia excluded from PAO due to age or early OA have poor outcomes after arthroscopy alone, highlighting the need to consider alternative strategies, including earlier THA or combined procedures, to optimize long-term hip function and pain relief.

IMAGES AND TABLES:

Measure	Control group	Dysplasia group	P-value
EQ-5D-5L	9.42 (SD 3.98)	13.78 (SD 5.49)	0.014*
MHI-5	79.04 (SD 15.81)	70 (SD 18.41)	0.10
iHOT-12	61.4 (SD 30.2)	38.1(SD 32.1)	0.03*
HOOS-PS	70.1 (SD 25.0)	50.6 (SD 25.1)	0.03*
UCLA Activity Scale	5.66 (SD 2.27)	4.89 (SD 2.03)	0.32
Adult SIM PA	3.18 (SD 2.22)	3.78 (SD 2.39)	0.50
PASS Single Item			0.002*
Yes	77	2	
No	63	12	
Subsequent total hip arthroplasty			<0.0001
Yes	7	7	
No	133	5	