Clinical Outcomes After Hip Arthroscopy for Patients with Inflammatory Joint Disease: A Matched Control Study with Minimum 5-Year Folow-Up

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Disclosures

I (and/or my co-authors) have something to disclose.

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Background

- There is paucity in the literature regarding mid-term outcomes of primary hip arthroscopy who have pre-existing inflammatory joint diseases (IJD)

Purpose

To present mid-term results of primary hip arthroscopy who have pre-existing (IJD)

We hypothesized that patients with IJDs undergoing hip arthroscopy would have significant postoperative improvement, but overall inferior outcomes compared to a benchmark control group

Methods

February 2008-December 2018. Patients with IJD undergoing primary hip arthroscopy for the treatment of femoroacetabular impingement (FAI)

Patients with minimum five-year follow-up and preoperative IJD diagnoses were 1:3 matched to controls without IJD based on age at surgery, sex, BMI, labral treatment and Tonnis Grade. (n=27:81)

Patient-reported outcomes and rates of achieving clinically relevant thresholds were compared between the two groups.

Results: Radiographic

Matched Demographic Information for IJD and Control Groups

	IJD	Control	P Value
Total Matched*	27	81	
Follow-up time, mo†	89.54 ± 28.41	64.87 ± 8.75	**<0.01**
Age at surgery, yr†	41.39 ± 13.97	42.37 ± 14.52	0.85
BMI (kg/m^2) †	25.71 ± 4.59	26.37 ± 5.79	0.86
Sex‡			
Male	4 (14.8%)	10 (17.5%)	>0.99
IJD Diagnosis‡			**<0.01**
Rheumatoid Arthritis	25 (92.59%)	0 (0%)	NA
Lupus	2 (7.41%)	0 (0%)	NA
DMARDs Prescribed‡	17 (62.96%)	0 (0%)	NA

*The values are given as the number of cases.

†The values are given as the mean and standard deviation.

‡The values are given as number (percent)

Results: Intra-Op

The IJD group more frequently had higher grade Seldes Type labral tears, higher grade Acetabular Outerbridge scores

Intraoperative Findings in IJD Patients and Controls

	IJD	Control	P Value
Seldes Tear Type			**<0.05**
0	0 (0.0%)	3 (3.7%)	
1	8 (29.6%)	15 (18.5%)	
2	9 (33.3%)	50 (61.7%)	
1 & 2	10 (37.0%)	13 (16.0%)	
ALAD Grade			0.16
0	4 (14.8%)	5 (6.2%)	
1	6 (22.2%)	27 (33.3%)	
2	7 (25.9%)	30 (37.0%)	
3	8 (29.6%)	18 (22.2%)	
4	2 (7.4%)	1 (1.2%)	
Acetabular Outerbridge			**<0.05**
0	3 (11.1%)	5 (6.2%)	
1	7 (25.9%)	27 (33.3%)	
2	7 (25.9%)	30 (37.0%)	
3	5 (18.5%)	17 (21.0%)	
4	5 (18.5%)	2 (2.5%)	
Femoral Head Outerbridge			0.06
0	15 (62.5%)	70 (86.4%)	
1	1 (4.2%)	0 (0.0%)	
2	2 (8.3%)	3 (3.7%)	
3	3 (12.5%)	3 (3.7%)	
4	3 (12.5%)	5 (6.2%)	

- The IJD and control group showed significant improvement at minimum 5-year follow-up
- The IJD group showed lower postoperative PRO scores

Patient-Reported Outcomes

	IJD	Control	P Value
mHHS			
Preoperative	59.01 ± 18.29	62.74 ± 13.50	0.34
Postoperative	73.43 ± 24.01	85.16 ± 16.51	**<0.05**
Preop vs postop P value	**<0.05**	**<0.01**	
Improvement	15.39 ± 23.71	22.04 ± 18.70	0.14
NAHS			
Preoperative	54.25 ± 20.42	63.83 ± 13.45	**<0.05**
Postoperative	74.95 ± 22.07	86.79 ± 13.75	**<0.05**
Preop vs postop P value	**<0.05**	**<0.01**	
Improvement	21.34 ± 21.12	22.75 ± 15.85	0.77
HOS-SSS			
Preoperative	39.12 ± 24.64	40.89 ± 20.03	0.62
Postoperative	57.13 ± 32.90	73.84 ± 28.95	**<0.05**
Preop vs postop P value	**<0.05**	**<0.01**	
Improvement	16.40 ± 32.64	31.51 ± 29.49	0.08
VAS			
Preoperative	5.35 ± 2.26	5.05 ± 2.21	0.91
Postoperative	3.58 ± 2.72	2.47 ± 2.57	0.07
Preop vs postop P value	**<0.05**	**<0.01**	
Improvement	-1.97 ± 2.49	-2.52 ± 3.11	0.23
Satisfaction	7.74 ± 2.38	8.21 ± 2.13	0.37

Results: PROs

- For mHHS, NAHS and HOS-SSS, MCID and SCB was met at similar frequencies in the two groups.

For NAHS, the IJD group met PASS at lower frequencies in comparison to the control group.

PASS and MCID

	IJD	Control	P Value
MCID			
mHHS	14 (60.9%)	61 (80.3%)	0.06
NAHS	16 (69.6%)	63 (82.9%)	0.16
HOS-SSS	12 (60.0%)	41 (73.2%)	0.27
PASS			
mHHS	15 (65.2%)	60 (78.9%)	0.18
NAHS	8 (34.8%)	48 (63.2%)	**<0.05**
HOS-SSS	8 (40.0%)	34 (60.7%)	0.11
SCB			
mHHS	6 (26.1%)	33 (43.42%)	0.136
NAHS	6 (26.1%)	35 (46.1%)	0.09
HOS-SSS	6 (26.1%)	29 (51.8%)	0.09

Values are presented as number (%). MCID, minimum clinically important difference; PASS, Patient Acceptable Symptom State; SCB; Substantial Clinical Benefit; mHHS, modified Harris Hip Score; NAHS, Non-Arthritic Hip Score; HOS-SSS, Hip Outcome Score-Sport Specific Subscale.

Results: Survivorship

Complications and Revisions

	IJD Group	Control Group	P Value
Second Hip Surgery*	6 (22.22%)	6 (7.41%)	**<0.05**
Open Gluteus Medius Repair*	0 (0%)	1 (1.23%)	>0.99
Revision Arthroscopy*	6 (22.22%)	5 (6.17%)	**<0.01**
Time to Second surgery, mo†	29.38 ± 5.42	35.70 ± 5.97	0.24
Conversion to THA*	7 (25.93%)	4 (4.94%)	**<0.01**
Time to conversion to THA, mo	55.74 ± 38.98	38.20 ± 28.05	0.46
Complications	0 (0%)	2 (2.47%)	>0.99

*The values are given as number (percent).

†The values are given as the mean and standard deviation.

Conclusion

- Patients with IJD undergoing hip arthroscopy demonstrate significant improvement in all PROs at minimum five-year Follow-up.
- Lower postoperative PROs, achieved clinically significant benchmarks less frequently.
- Higher rate of revision arthroscopy and conversion to arthroplasty with an odds ratio of 3.6 and 4.5 respectively

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