Hip Arthroscopy with Concomitant Periacetabular Osteotomy: Outcomes and Survivorship at Minimum 10-year Follow-up

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Disclosures

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

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Background

- Multiple studies have shown that hip arthroscopy with concomitant periacetabular osteotomy (PAO) is a safe and effective treatment option for patients presenting with symptomatic acetabular dysplasia and intra-articular pathology. While short- and mid-term outcomes have been previously reported, there exists a paucity of literature investigating long-term outcomes of hip arthroscopy with concomitant PAO.

Purpose

.To report minimum 10-year follow-up results and survivorship of hip arthroscopy with concomitant PAO to treat acetabular dysplasia and intra-articular pathology

Methods

Data from November 2010 to February 2014 was prospectively collected and retrospectively reviewed to identify patients undergoing primary hip arthroscopy with concomitant PAO (n=15).

Patients with preoperative and minimum 10-year PROs, including mHHS, NAHS, HOS-SSS, VAS, iHOT-12, and satisfaction score (0-10), were analyzed.

A Kaplan-Meier survival analysis was performed.

Results: Demographics

Characteristic		Value
Sex		
	Female	13 (86.7%)
	Male	2 (13.3%)
Laterality		
	Right	8 (53.3%)
	Left	7 (46.7%)
Body Mass Index (BMI), kg/m2		24.7 ± 4.9
Age at Surgery, years		25.0 ± 7.5

Results: Demographics

Labral Tear		
	Seldes I	6 (40.0%)
	Seldes II	5 (33.3%)
	Combined I and II	4 (26.7%)
ALAD		
	1	5 (33.3%)
	2	6 (13.3%)
	3	2 (13.3%)
	4	2 (13.3%)
Acetabular Outerbridge		
	0	1 (6.7%)
	I	5 (33.3%)
	II	4 (26.7%)
	III	2 (13.3%)
	IV	2 (13.3%)
Femoral Head Outerbridge		
	0	13 (86.7%)
	I	0
	II	2 (13.3%)
	III	0
	IV	0
LT Percentile Domb Classification		
	0 (0%)	1 (6.7%)
	I (>0% to 50%)	5 (33.3%)
	II (50% to <100%)	7 (46.7%)
	III (100%)	2 (13.3%)
LT Villar Classification		
	0 (no tear)	1 (6.7%)
	I (complete tear)	2 (13.3%)
	II (partial tear)	7 (46.7%)
	III (degenerative tear)	5 (33.3%)

Values are presented as n (%). ALAD, acetabular labral articular disruption; LT, ligamentum teres.

Results: Radiographic Outcomes

Measurement	Pre-Operative	Δ	Post-Operative	P value
Tonnis Grade 0	13 (86.7%)	-	13 (86.7%)	>0.99
LCEA	14.4 ± 5.7	16.2 ±7.4	30.6 ± 5.4	**<0.001**
ACEA	13.3 ± 6.2	17.3 ± 5.3	30.6 ± 4.3	**<0.001**
Tonnis Angle	17.8 ± 4.3	-14.9 ± 5.6	2.9 ± 2.7	**<0.001**

Values are presented as n (%) or mean ± standard deviation (range). LCEA, lateral center edge angle. ACEA, anterior center edge angle.

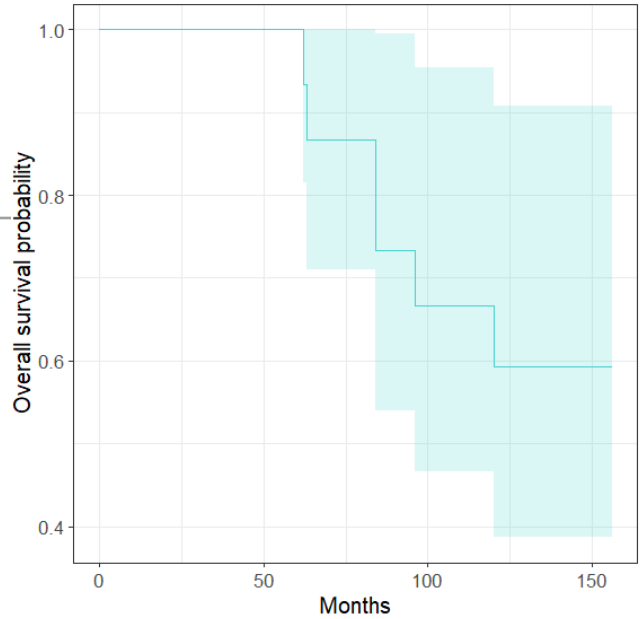
Results: PROs

- All PROs demonstrated significant improvement from the preoperative baseline to both the short-term and mid-term timepoints respectively

Measurement	Pre-Operative	Δ	Post-Operative	P value
mHHS	66.5 ± 6.5	26.2 ± 10.5	92.7 ± 13.3	<**0.01**
NAHS	54.4 ± 22.2	36.7 ± 23.8	91.1 ± 9.1	<**0.01**
HOS-SSS	28.5 ± 17.5	52.2 ± 24.1	80.7 ± 25.1	<**0.01**
VAS Pain Scale	4.1 ± 1.4	-3.2 ± 1.5	0.9 ± 0.6	<**0.001**
iHOT12	-	-	80.8 ± 20.5	-
Patient Satisfaction	-	-	9.3 ± 1.1	-

Results: Survivorship

	PAO Hips (n=15)
Revision Arthroscopies	
Total Undergoing Revision Arthroscopy	2 (13.3%)
Average Time to Arthroscopy, months	57.5
THA	
Total Converting to THA	4 (26.7%)
Average Time to THA, months	63.75



Conclusion

Patients with dysplasia and intra-articular pathology, such as labral tears and FAI, can be safely treated using hip arthroscopy with concomitant PAO. These patients can achieve long-term outcomes improvement compared to baseline; however, high rates of revision and conversion were noted.

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Thank You