Durable Rates of Achieving Clinically Relevant Outcomes for Concomitant Hip Arthroscopy and Periacetabular Osteotomy: Short- to Mid-Term Follow-up

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Disclosures

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

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Background

- Concomitant or staged hip arthroscopy with periacetabular osteotomy (PAO) is a common surgical treatment for acetabular dysplasia with intra-articular hip pathology. To date, there is a paucity of information concerning the rates of achieving clinically relevant thresholds in patients undergoing simultaneous hip arthroscopy and PAO.

Purpose & Hypothesis

To present short-term and mid-term results of concomitant hip arthroscopy followed by PAO

We hypothesized that there would be improvement in patient reported outcomes (PROs) and rates of achieving thresholds at both timepoints.

Methods

Two-year and minimum five-year outcome data from a prospectively maintained database were queried to identify patients who underwent concomitant primary hip arthroscopy and PAO (n=28).

PROs evaluated at both timepoints included the modified Harris Hip Score (mHHS), non-arthritic hip score (NAHS), hip outcome score sport-specific subscale (HOS-SSS), and international hip outcome tool 12 (iHOT12)

Previously defined clinically meaningful thresholds were also assessed at both timepoints, including minimal clinically important difference (MCID), patient acceptable symptom state (PASS), and substantial clinical benefit (SCB).

Results: Demographics

Characteristics	Hips
Hips	
Left	13 (46.4%)
Right	15 (53.6%)
Sex	
Female	26 (92.9%)
Male	2 (7.1%)
Age at surgery, yrs	24.75 ± 8.4 (12.3 – 50.3)
BMI, kg/m	24.19 ± 3.9 (17.4 – 33.3)
Frank Dysplasia (≤18)	15 (53.6%)
Borderline Dysplasia (18<x<25)	13 (46.4%)

Values are presented as n (%) or mean ± standard deviation (range). BMI, body mass index.

Results: Demographics

Finding	Hips
Seldes	
I	9 (32.1%)
II	10 (35.7%)
I & II	9 (32.1%)
ALAD	
0	2 (7.1%)
1	10 (35.7%)
2	10 (35.7%)
3	5 (17.9%)
4	1 (3.6%)
Outerbridge: Acetabulum	
0	1 (3.6%)
1	11 (39.3%)
2	10 (35.7%)
3	4 (14.3%)
4	2 (7.1%)

Finding	Hips
Outerbridge: Femoral Head	
0	25 (89.3%)
1	0 (0.0%)
2	2 (7.1%)
3	0 (0.0%)
4	1 (3.6%)
Ligamentum teres tear (Villar classification)	
0	6 (21.4%)
1	1 (3.6%)
2	20 (71.4%)
3	1 (3.6%)

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

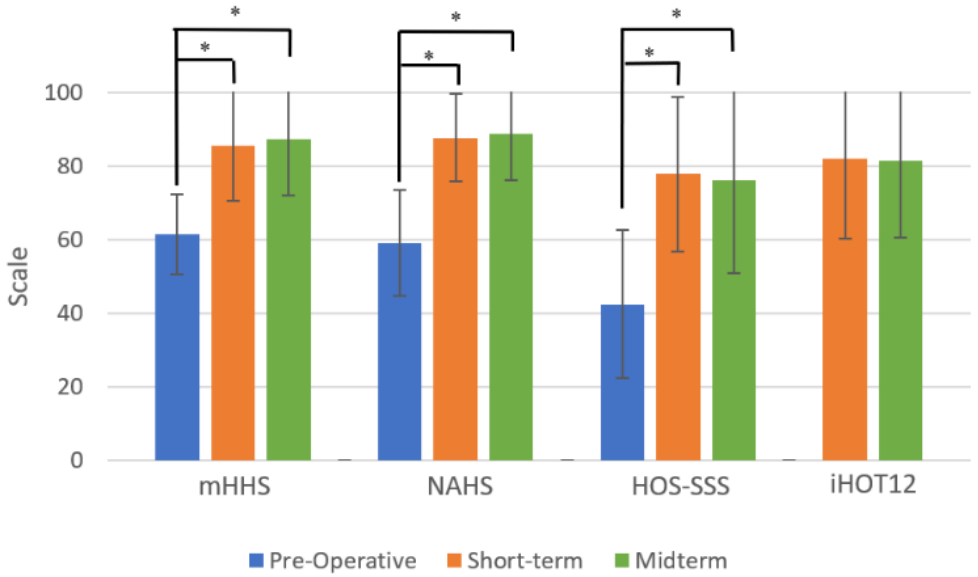
Results: Radiographic Outcomes

Radiographic Measurements	Preoperative	Δ	Postoperative	p-value
Tonnis Grade 0	26 (92.9%)	–	25 (89.3%)	0.639
LCEA	16.8 ± 4.9 (1 – 22.7)	15.5 ± 5.8 (6 – 25.3)	32.3 ± 5.4 (21 – 45)	**<0.001**
ACEA	16.9 ± 6.2 (4 – 31.2)	16.8 ± 6.8 (6.7 – 35)	33.7 ± 7.1 (16 – 50.5)	**<0.001**
Tonis Angle	14.2 ± 5.3 (4.7 – 25)	-11.3 ± 8.2 (-25 – 13.5)	2.9 ± 5.0 (-4.8 – 18.9)	**<0.001**
Alpha Angle	53.1 ± 10.9 (35.3 – 87)	-15.3 ± 13.3 (-55 – -0.8)	40.2 ± 5.4 (32 – 49)	**<0.001**

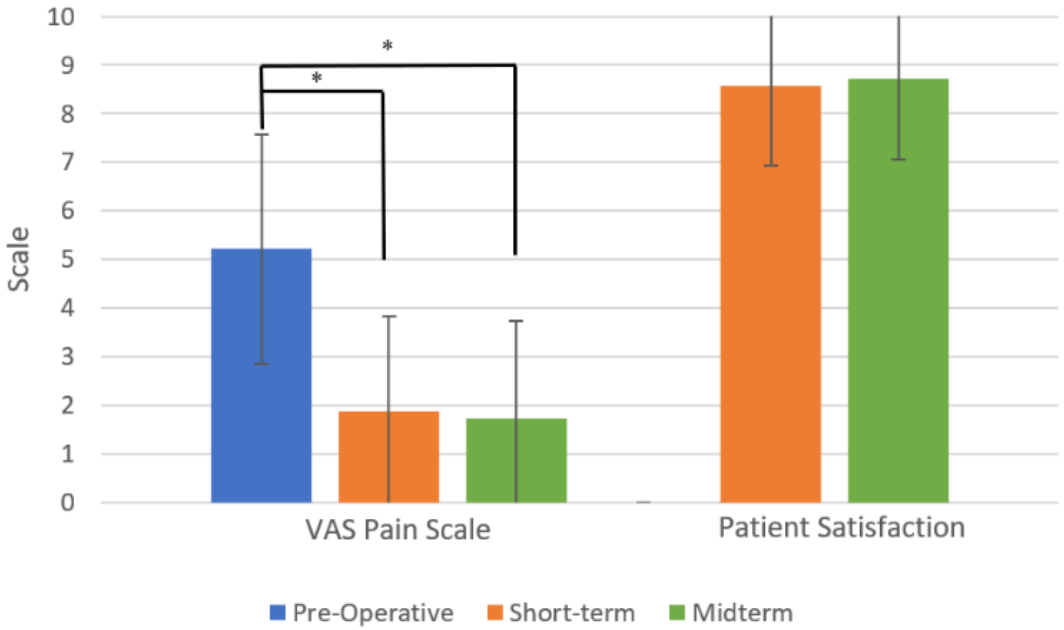
Values are presented as n (%) or mean ± standard deviation (range). LCEA, lateral center edge angle. ACEA, anterior center edge angle.

Results: PROs

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



Results: VAS & Satisfaction



Results: Clinically Significant Thresholds

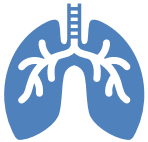
- When evaluating MCID, PASS, and SCB thresholds for PROs at the short-term and mid-term time point, no significant difference was found between the two time points

	Short-Term	Mid-term	P-value
mHHS			
MCID	26 (92.9%)	24 (85.7%)	0.3875
PASS	17 (60.7%)	18 (64.3%)	0.7825
SCB	15 (53.6%)	14 (50.0%)	0.7891
NAHS			
MCID	27 (96.4%)	27 (96.4%)	>0.999
PASS	19 (67.9%)	20 (71.4%)	0.7713
SCB	11 (39.3%)	16 (57.1%)	0.1812
HOS-SSS			
MCID	26 (92.9%)	22 (78.6%)	0.1266
PASS	19 (67.9%)	13 (46.0%)	0.1052
SCB	17 (60.7%)	12 (42.9%)	0.1812
iHOT-12			
PASS	23 (82.1%)	19 (67.9%)	0.2170
SCB	21 (75.0%)	16 (57.1%)	0.1582

Values are presented as n (%).

Complications

3 hips with superficial infections treated with oral antibiotics.



1 patient who failed to follow instructions to stop birth control had a pulmonary embolism.

3 hips had a secondary arthroscopy for labral retear (8.3%)

2 hips converted to total hip arthroplasty (5.7%).

Conclusion

Concomitant hip arthroscopy and PAO is an effective procedure with favorable short-term that mid-term outcomes. Patients display equivalent success of meeting clinically significant thresholds at both timepoints.