ePoster #4: A Comparison of Short-Term Outcomes Following Hip Arthroscopy with Labral Repair versus Labral Augmentation

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Disclosures

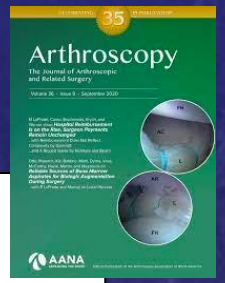
- Disclosures:
  - Anthony J. Scillia: Biomet (stock), CONMED Linvatec (stock), Johnson & Johnson (stock), Mitek (paid consultant), Pfizer (stock), Smith & Nephew (stock), Stryker (stock)

Introduction

- The treatment of labral pathology during hip arthroscopy has evolved over the last decade
- Labral augmentation or reconstruction with autograft or allograft has been used for the treatment of irreparable or tissue-deficient labral pathology in recent years

Introduction

- Recent evidence has shown promising clinical outcomes following labral reconstruction
- Lack of literature on labral augmentation for segmental defects



Systematic Review

Durable Outcomes After Hip Labral Reconstruction at Minimum 5-Year Follow-Up: A Systematic Review

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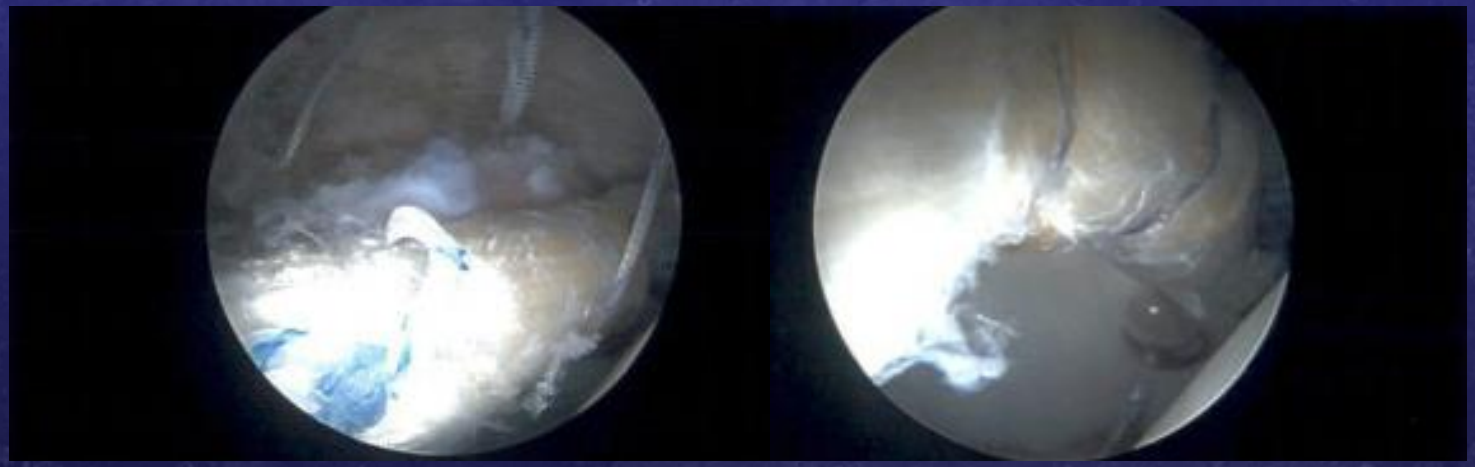
Purpose

- To prospectively compare the clinical outcomes of patients undergoing hip arthroscopy with labral repair (LR) versus labral augmentation (LA)



Methods

- Prospective, single-surgeon (AJS) cohort study
- Hip arthroscopies with labral repair or augmentation performed between September 2019 and April 2022
- Labral augmentation was performed by addition of iliotibial band allograft to a segment of the repair construct

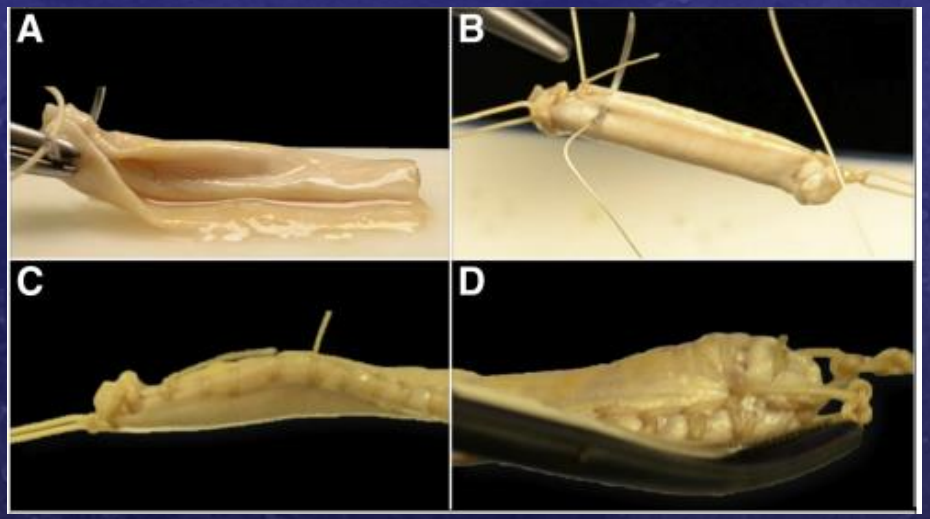


Image adapted from Chahla J, Soares E, Bhatia S, Mitchell JJ, Philippon MJ. Arthroscopic Technique for Acetabular Labral Reconstruction Using Iliotibial Band Autograft. Arthrosc Tech. 2016 Jun 27;5(3):e671-7. doi: 10.1016/j.eats.2016.02.025. PMID: 27656395; PMCID: PMC5021635.

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Methods

- An electronic survey of Patient-Reported Outcome Measures (PROMs) was completed by each patient at a minimum of 1 year postoperatively
- PROMs included:
  - Visual Analogue Scale (VAS) for pain
  - University of California-Los Angeles (UCLA) Activity Scale
  - Modified Harris Hip Score (mHHS)
  - Hip Outcome Score-Sport-Specific Subscale (HOS-SSS)
  - Single Assessment Numeric Evaluation (SANE)
- Patients completed the VAS, UCLA, and mHHS scores preoperatively
- Minimal clinically important difference (MCID) for VAS, UCLA, and mHHS were calculated based on the distribution method[1,2] (equal to half the standard deviation of preoperative scores)

Results

- 99 patients (64 LR, 35 LA)
- No differences were found between groups in terms of age at surgery, sex, or body mass index
- Due to a more recent adoption of the LA technique to the senior surgeon's practice, there was a significantly longer time to follow-up in the LR group

Demographics	LR	LA	p-value
Age at surgery (yrs)	32 ± 13	35 ± 14	0.32
Sex (female %)	58	74	0.10
Body mass index (kg/m^2)	26 ± 7	24 ± 5	0.10
Follow-up time (months)	26.1 ± 8.7	20.2 ± 7.9	**0.001**

Results

PROM	LR Pre-op	LR Post-op	LA Pre-op	LA Post-op	P-value Pre-op	P-value Post-op
VAS	5.2 ± 2.5	2.3 ± 2.4	5.9 ± 2.3	3.0 ± 2.7	0.19	0.23
UCLA	6.3 ± 2.7	7.8 ± 2.3	5.8 ± 2.8	7.5 ± 2.6	0.47	0.48
mHHS	49.5 ± 13.1	77.3 ± 15.3	53.3 ± 17.1	73.8 ± 16.6	0.42	0.30
HOS-SSS	NA	79.0 ± 22.8	NA	69.2 ± 31.8	NA	0.08
SANE	NA	84.8 ± 18.8	NA	77.0 ± 26.1	NA	0.10

- No differences were found between groups in terms of PROMs at a minimum 1 year postoperatively

Results

Proportion of Patients Achieving MCID

PROM	LR, n (%)	LA, n (%)	P-value
VAS	36 (72.0)	22 (66.7)	0.60
UCLA	18 (36.0)	16 (47.1)	0.31
mHHS	17 (89.5)	20 (80.0)	0.40

Proportion of Patients Achieving PASS[3-7]

PROM	LR, n (%)	LA, n (%)	P-value
VAS	42 (65.6)	20 (57.1)	0.40
UCLA	53 (82.8)	28 (80.0)	0.73
mHHS	44 (69.8)	22 (62.9)	0.48
HOS-SSS	44 (69.8)	21 (60.0)	0.32

Proportion of Patients Achieving SCB[3,4,7]

PROM	LR, n (%)	LA, n (%)	P-value
VAS	31 (48.4)	12 (34.3)	0.17
UCLA	18 (36.0)	16 (47.1)	0.31
mHHS	34 (54.0)	14 (40.0)	0.19
HOS-SSS	30 (47.6)	17 (48.6)	0.93

Revisions/Conversion to THA

- Two patients (3.1%) in the LR group underwent revision procedures with iliotibial band allograft augmentation at 7 and 42 months postoperatively, respectively
- One patient (1.6%) in the LR group was converted to total hip arthroplasty 22 months after the index procedure

Limitations

- Short-term follow-up
- No preoperative scores for HOS-SSS, SANE
- Non-randomized → selection bias

Discussion/Conclusions

- At short-term follow-up, PROMs for pain and function are comparable in young active patients undergoing hip arthroscopy with labral repair or labral augmentation
- Larger studies with longer follow-up are warranted to corroborate these findings, determine the appropriate indications for labral augmentation, and to determine which patients are at higher risk of conversion to THA

References

1. Norman GR, Sloan JA, Wyrwich KW. Interpretation of changes in health-related quality of life: the remarkable universality of half a standard deviation. *Med Care*. 2003;41(5):582-592.
2. Ouyang VW, Saks BR, Maldonado DR, et al. Younger Age, Capsular Repair, and Larger Preoperative Alpha Angles Are Associated With Earlier Achievement of Clinically Meaningful Improvement After Hip Arthroscopy for Femoroacetabular Impingement Syndrome. *Arthroscopy*. 2022;38(7):2195-2203.
3. Beck EC, Nwachukwu BU, Kunze KN, Chahla J, Nho SJ. How Can We Define Clinically Important Improvement in Pain Scores After Hip Arthroscopy for Femoroacetabular Impingement Syndrome? Minimum 2-Year Follow-up Study. *Am J Sports Med*. 2019;47(13):3133-3140.
4. Carton P, Filan D, Mullins K. Survivorship Rate and Clinical Outcomes 10 Years After Arthroscopic Correction of Symptomatic Femoroacetabular Impingement. *Am J Sports Med*. 2022;50(1):19-29.
5. Chahal J, Van Thiel GS, Mather RC, et al. The Patient Acceptable Symptomatic State for the Modified Harris Hip Score and Hip Outcome Score Among Patients Undergoing Surgical Treatment for Femoroacetabular Impingement. *Am J Sports Med*. 2015;43(8):1844-1849.
6. Martin RL, Kivlan BR, Christoforetti JJ, et al. A tiered system using substantial clinical benefit and patient acceptable symptomatic state scores to evaluate 2-year outcomes of hip arthroscopy with the Hip Outcome Score. *J Hip Preserv Surg*. 2020;7(1):62-69.
7. Nwachukwu BU, Chang B, Fields K, et al. Defining the “Substantial Clinical Benefit” After Arthroscopic Treatment of Femoroacetabular Impingement. *Am J Sports Med*. 2017;45(6):1297-1303.

Thank You

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