Assessing Outcomes for Posterior Shoulder Instability Surgery in Patients With Normal Reported MRA Studies

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Disclosures

Objective

◆ The purpose of this study is to evaluate the outcomes of patients who underwent posterior shoulder capsulolabral repair despite having a Magnetic Resonance Arthrogram (MRA) defined by the interpreting radiologist as having no pathology indicative of shoulder instability.

• Patient Identification:

Single surgeon, retrospective review of patients who underwent posterior capsulolabral repair between August 2016 and July 2020.

Inclusion Criteria:

- clinical diagnosis of posterior shoulder instability (PSI)
- pre-operative MRA with available radiologist interpretation
- minimum of two years follow up

♦ Exclusion Criteria:

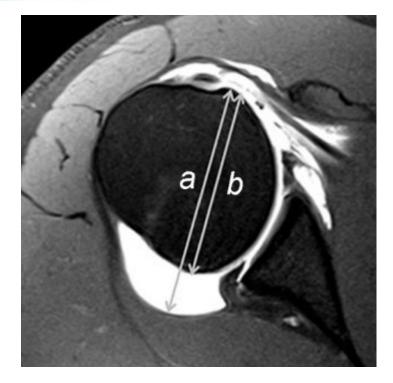
- rotator cuff lesions
- Beighton score greater than 6
- glenoid bone loss or fracture
- history of prior shoulder surgery on the affected side

◆ Patients were classified as Normal MRA or Pathological MRA based on the interpreting radiologist's MRA impression

• Prior to arthroscopic capsulolabral repair, all patients failed a minimum of 12 weeks of physical therapy.

Capsular Measurements:

- performed pre-operatively by a single fellowship-trained shoulder and elbow surgeon
- an axial posterior linear capsular measurement greater than 14 mm was considered indicative of an enlarged capsule by the lead surgeon



Axial linear capsular measurements (a - b)

Surgical Technique:

- lateral decubitus positioning
- labral mobilization and repair with a minimum of suture anchors
- for patients without a labral tear but diminutive labrum and enlarged capsular volume, the suture anchor was passed around a bite of capsule and the diminutive labrum
- the technique had the dual result of creating an enlarged labrum or bumper as well as a reduction in the capsular volume

Results

- Of the 40 patients identified, 25 patients met the inclusion criteria:
 - ♦ 14 had pathologic findings on radiologist MRA impression
 - 11 lacked pathologic findings on radiologist MRA impression

Demographics:

- mean age was 35 (range: 19 to 59)
- mean BMI was 26 (range: 18 to 31)
- mean follow up duration was 40 months (range: 24 to 64)
- ▶ 14 (0.56) patients had surgery on their dominant arm

Results

Comparison of pre and post operative demographic variables and patient reported outcome measures between the Pathological MRA and Normal MRA groups.

	Pathological MRA (n=14)	Normal MRA (n=11)	P-value
Demographic	Mean ± SD	Mean ± SD	
Male Sex	10 (0.71)	1 (.09)	.008
Age (years)	37.1 ± 8.1	33.3 ± 10.4	.528
BMI	26.2 ± 2.2	25.0 ± 4.4	.477
Follow-up Duration (Months)	37.3 ± 11.3	43.3 ± 16.5	.338
Surgery on Dominant Side	8 (.57)	6 (.55)	.899
Pre-operative			
VAS Pain	4.7 ± 1.9	4.2 ± 2.0	.434
SANE Score	41.9 ± 25.0	46.5 ± 11.6	.467
Post-operative			
VAS Pain	2.4 ± 2.7	1.7 ± 2.4	.202
SANE score	75.3 ± 25.7	81.7 ± 26.5	.344
WOSI summary	49.1 ± 38.8	42.0 ± 39.5	.344
WOSI Physical Symptoms	48.2 ± 39.8	39.6 ± 37.8	.403
WOSI Sports Recreation/Work	47.9 ± 40.06	42.5 ± 41.5	.536
WOSI Lifestyle	50.6 ± 40.0	43.8 ± 41.5	.501
WOSI Emotions	51.7 ± 36.7	47.8 ± 43.9	.767

Results

- ♦ Both groups with statistically significant increase in SANE
 - ♦ 29.4 (p=0.003) for the Pathological Group
 - \bullet 35.2 (p = 0.007) for the Normal MRA group
- ♦ Both groups with statistically significant reduction in VAS pain
 - -2.4 (p = .006) for the Pathological MRA group.
 - \bullet -2.5 (p = 0.016) for the Normal MRA group

Conclusions

- Regardless of preoperative MRA radiologist results, there is no difference in clinical outcomes in patients who underwent posterior capsulolabral repair for clinically symptomatic posterior shoulder instability.
- Utilization of objective capsular measurements can identify pathologic findings in patients with symptomatic shoulder instability despite radiologist defined normal findings.

Significance of Findings

♦ When there is a lack of clear labral pathology on MRA, use of capsular measurements on MRA can assist surgeons in determining candidacy for PSI surgery.

♦ This study emphasizes that a careful clinical exam is the most important factor when determining indication for PSI surgery.