

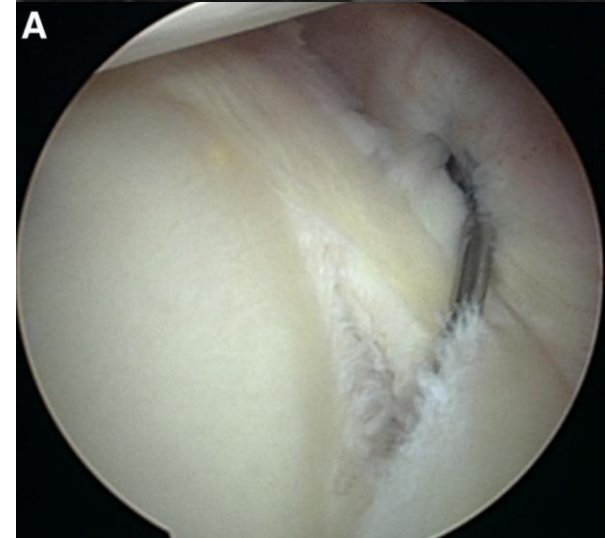
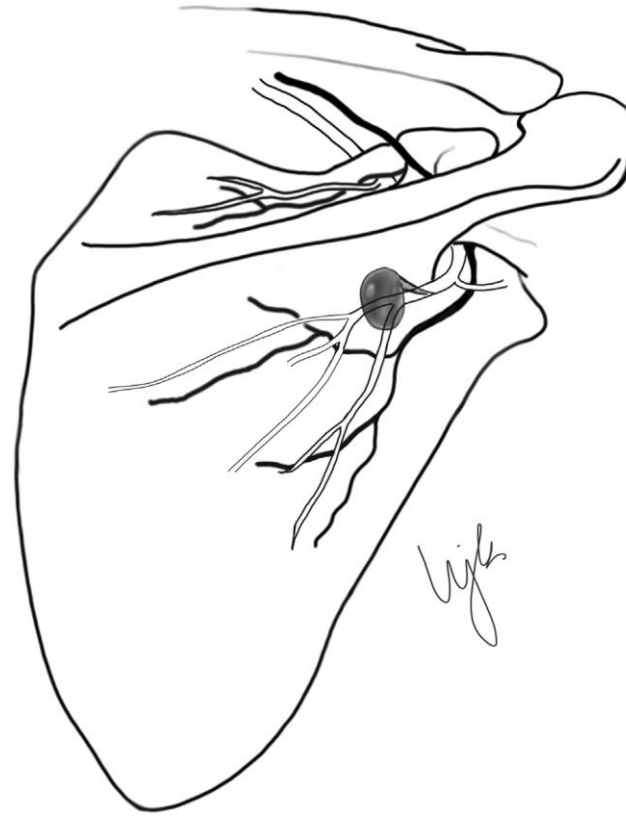
The result of cyst decompression and biceps tenodesis is similar to that of cyst decompression and SLAP repair in patients with SLAP lesion with concomitant paralabral cyst

Du-Han Kim, Ji-Hoon Kim, Chul-Hyun Cho

Keimyung University Dongsan Hospital

Introduction

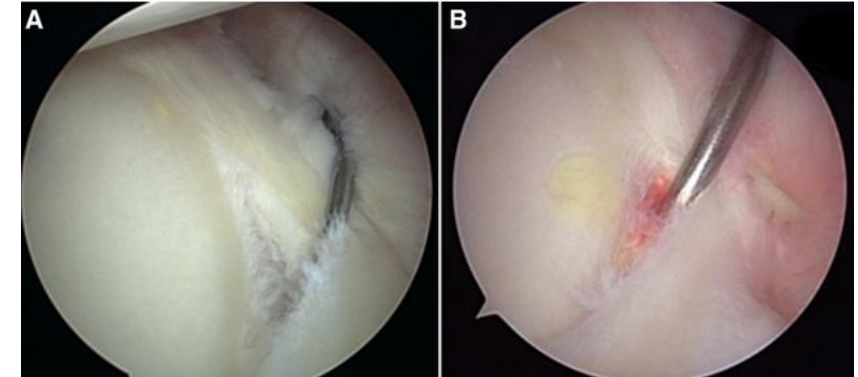
- Spinoglenoid cyst with SLAP tear
 - repetitive overhead activities
 - 1-way valve mechanism
 - Joint fluid leakage
- Advances in diagnostic technique (MRI, MRA)
 - no longer a rare disease



Arthroscopic treatment

1. Cyst simple decompression

Neviaser, JBJS Am, 1986



2. Cyst decompression with labral repair

Dietz, Acta Orthop Belg, 2003

Westerheide, Arthroscopy, 2006

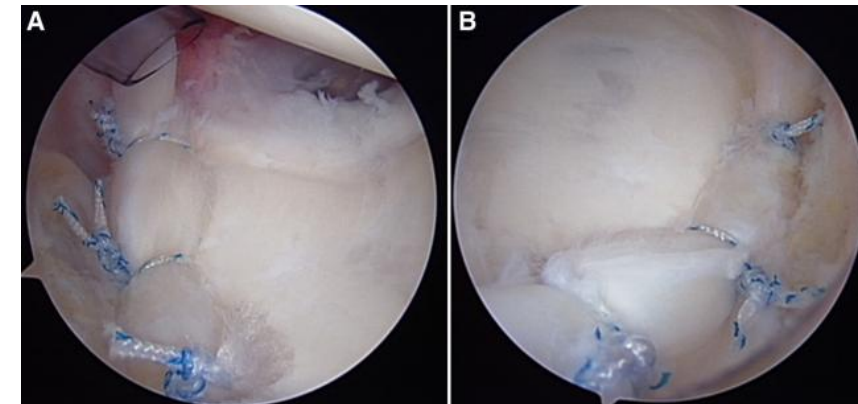
Kessler, AOTS, 2007

Bilsel, KSSTA, 2014

Shon MS, JSES, 2015

Kim SJ, Arthroscopy, 2017

➤ *Most popular technique*



3. Labral repair without cyst decompression

Youm, Arthroscopy, 2006

Schroder, JBJS Am, 2008

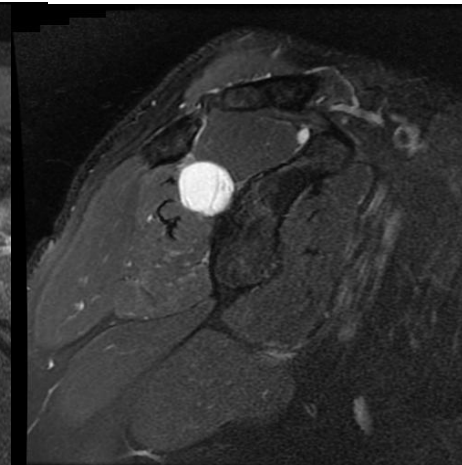
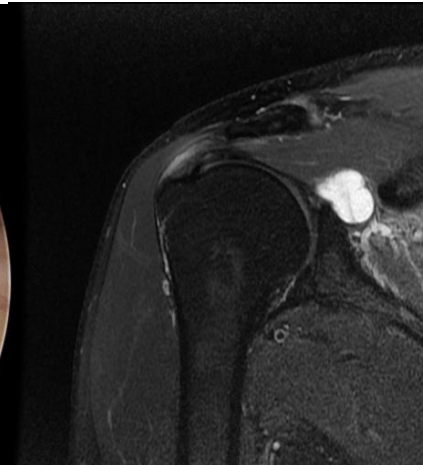
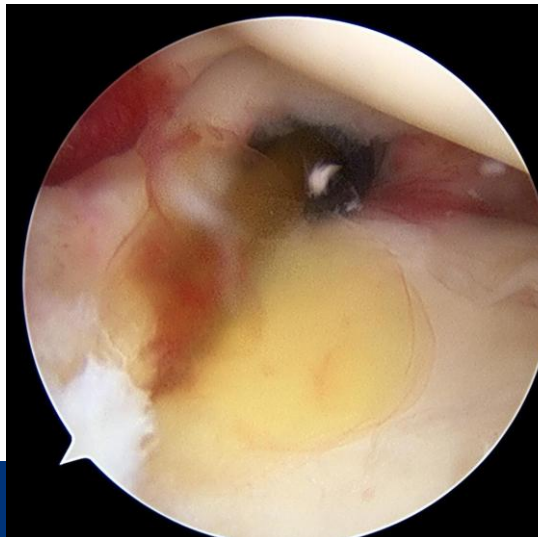
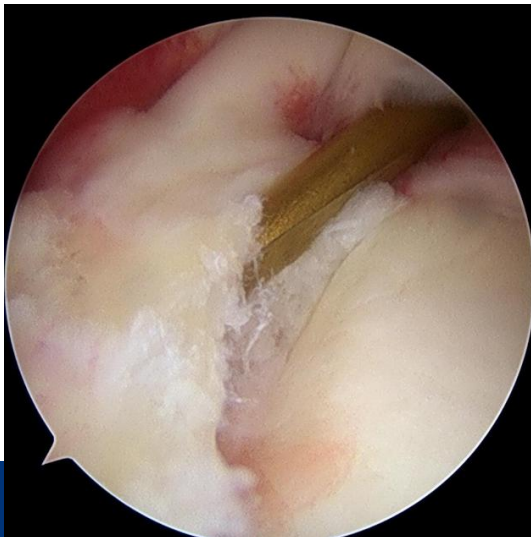
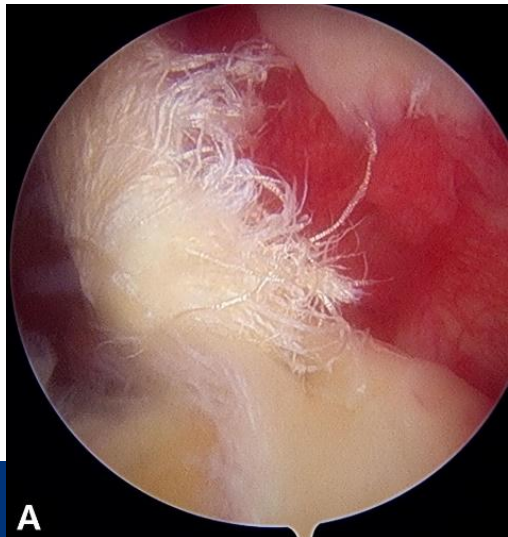
Kim DS, JSES, 2012

Schroder, JSES, 2018



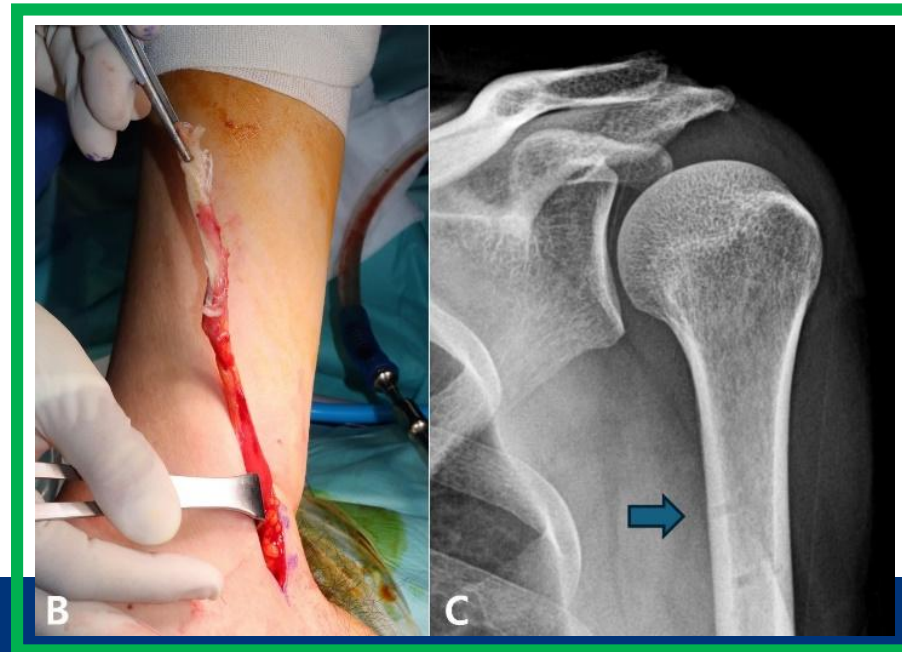
Introduction

- However, **SLAP repair** is not always possible depending on labral condition.
 - *Poor results have been reported compared to **biceps tenodesis**.*
- **No study** comparing the results between **biceps tenodesis with cyst decompression** and **SLAP repair and cyst decompression** in patients with SLAP tear and cyst decompression has been reported.



Purpose

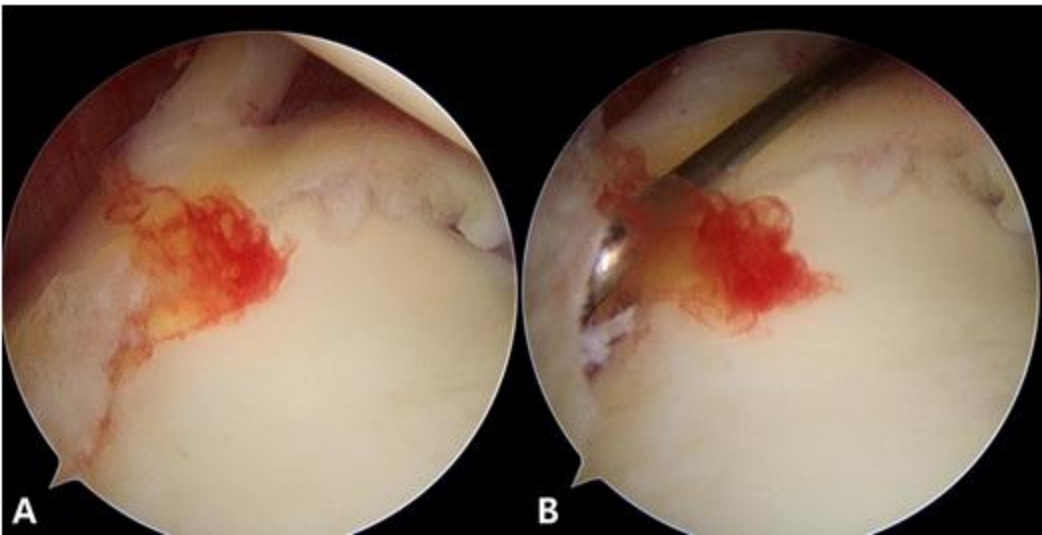
- To compare clinical and radiological results between two procedures
 - RD group: SLAP repair and cyst decompression
 - TD group: Subpectoral biceps tenodesis with cyst decompression



Materials and Methods

- *between January 2009 and January 2023*
 - Patients underwent arthroscopic surgery for a SLAP lesion with a paralabral cyst
 - SLAP repair was usually performed before 2016
 - Subpectoral biceps tenodesis has been applied depending on the patient's condition since 2016
- **Inclusion criteria**
 - 1) A paralabral cyst located around the glenohumeral joint, demonstrated on MRI
 - 2) Symptoms lasting more than three months despite suitable nonoperative treatments
 - 3) Patients who were available for a minimum 12-month follow-up after surgery

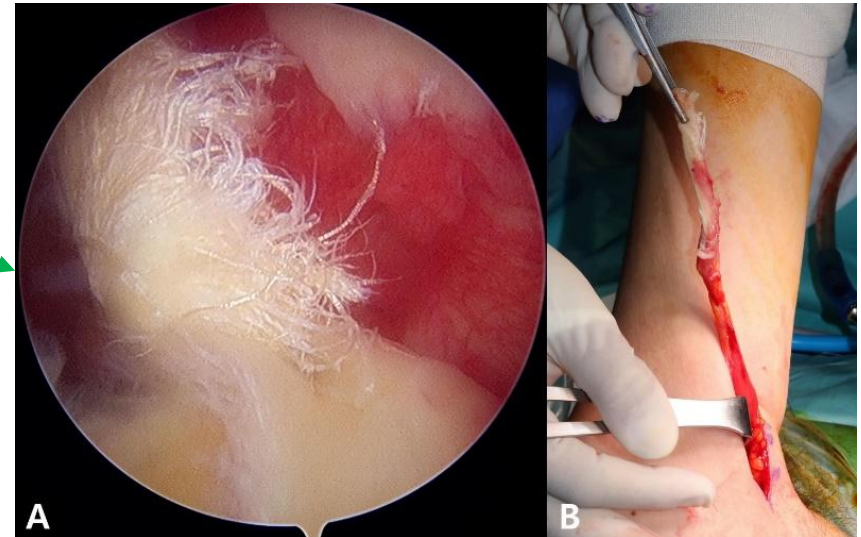
Surgical procedure



Cyst decompression



SLAP repair
(RD group)



Biceps subpectoral tenodesis
(TD group)

Clinical assessments

- **Assessment of pain intensity**

- Visual analog scale (VAS) score
- University of California Los Angeles (UCLA) score
- Activities of daily living (ADL) score
- Subjective shoulder value (SSV)

- **Manual muscle tests (MMT)**

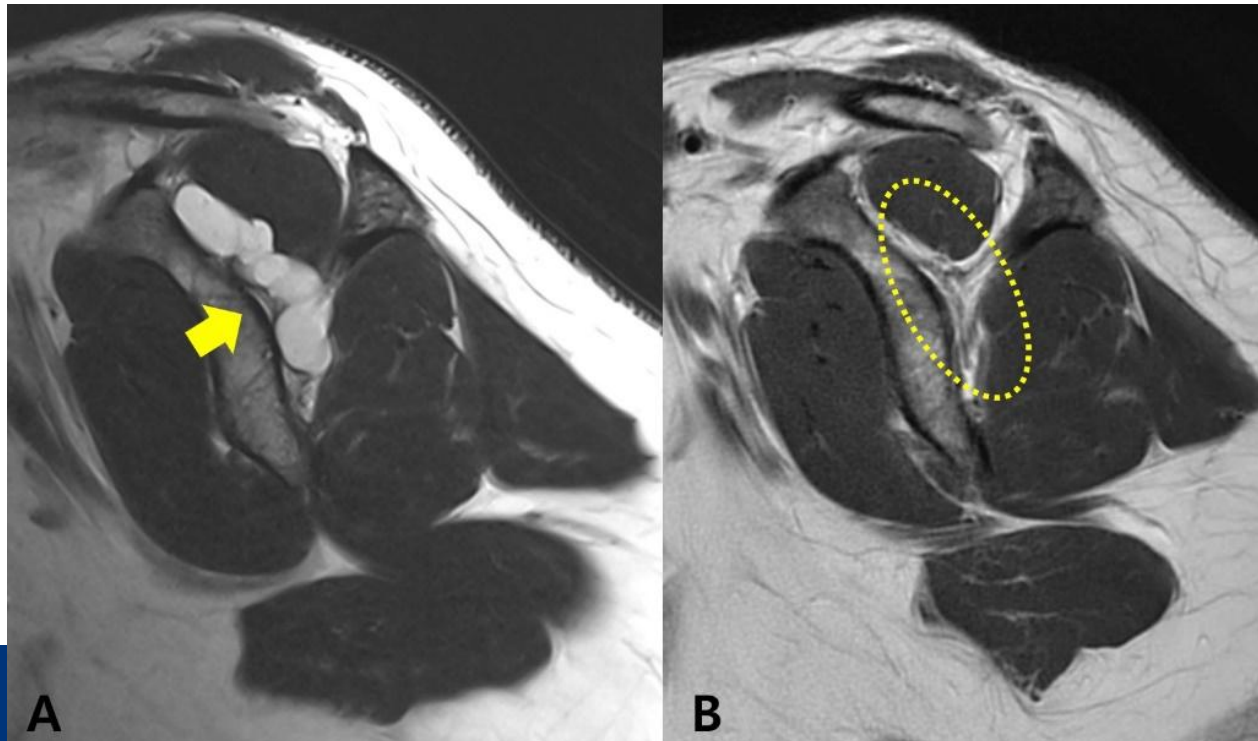
- For external rotation and abduction strength
- Using a digitally calibrated dynamometer
- Performed preoperatively and six months after surgery



Radiologic assessments

- **MRI (1.5T MRI system)**

- Measuring size of the cysts by hand using PACS software
- Qualitative assessment of fatty degeneration according Goutallier classification
- Pre-op & Follow-up MRI was performed at six months after surgery to confirm cyst resorption



Statistical analysis

- The SPSS statistical package (version 26.0 for Window, Chicago, IL)
- A nonparametric Wilcoxon signed rank test was used for comparison of the pre- and postoperative results within the same group.
- A Mann-Whitney test was used for analysis of the results between the two groups.
- Statistical significance was set at $P < .05$ for all analyses

Results – Patient Demographic & Characteristic Data (N= 42)

	RD group (n = 17)	DT group (n = 25)	P Value		RD group (n = 17)	DT group (n = 25)	P Value
Mean age, year	39.94 (25-58)	46.36 (19-64)	0.014*	RC muscle atrophy, n			0.333
Mean follow-up, month	77.18 ± 58.73	32.72 ± 17.57	0.024*	None	9	21	
Gender: male/female	16/1	21/4	0.320	Supraspinatus	0	0	
Sports activity				Infraspinatus	8	3	
Elite	1	0	0.296	Both	0	1	
Overhead	7	11		RC muscle atrophy			0.066
Non overhead	0	3		Goutallier grade, n			
None	9	11		0	9	21	
Occupation				1	7	3	
Heavy	5	6	0.208	2	1	1	
Light	9	7		3	0	0	
Office	3	11		4	0	0	
None	0	1		Cyst location, n			0.311
Radiologic findings				Posterosuperior	16	20	
Cyst size, mm				Superior	0	3	
A-P diameter	17.24 ± 7.20	12 ± 3.77	0.006*	Both	1	2	
M-L diameter	24.94 ± 10.51	18.4 ± 7.64	0.032*	Cyst lobulation, n			0.426
Height	21.71 ± 7.19	16.08 ± 5.71	0.007*	Single	11	19	
				Multiple	6	6	
				Concomitant procedure, n			0.093
				None	14	25	
				RC repair	2	0	
				Calcific decompression	1	0	

Results – clinical and radiologic results of the pre- & postoperative data

	RD group (n = 17)	DT group (n = 25)	P Value	95% CI	
				Lower	Upper
Preoperative MMT, n	8	18			
External rotation	68.4 ± 20.2	74.9 ± 24.0	0.165		
Abduction	84.3 ± 21.1	79.3 ± 22.5	0.739		
Postoperative MMT, n	8	18			
External rotation	98.7 ± 13.8	101.3 ± 16.0	0.913		
Abduction	90.9 ± 12.6	97.7 ± 15.3	0.505		
Mean Follow-Up, Month	39.94 (25-58)	46.36 (19-64)			
Preoperative clinical outcome					
VAS pain score	3.69 ± 2.73	4.8 ± 2.40	0.170	-3.000	1.000
UCLA score	21.36 ± 5.37	18.64 ± 4.63	0.131	-1.000	7.000
ADL score	19.87 ± 8.60	20.04 ± 5.32	0.510	-3.000	5.000
SSV score	64.58 ± 17.77	52.60 ± 21.17	0.143	-0.000	25.000
Postoperative clinical outcome					
VAS pain score	0.50 ± 1.00	0.52 ± 1.08	0.756	-0.000	0.000
UCLA score	33.54 ± 3.23	32.90 ± 3.56	0.442	-0.000	1.000
ADL score	29.00 ± 2.13	29.05 ± 1.72	0.747	-0.000	0.000
SSV score	92.86 ± 11.39	91.61 ± 13.48	0.815	-0.000	3.000
Follow-up MRI, n	7	18	0.046		
Complete resorption, n	7 (28.0)	18 (72.0)			
Postoperative complications, n	1 (brachial plexopathy)	0	0.220		
Re-operation, n	0	0	-		

Conclusion

- Compared with a cyst decompression and SLAP repair, cyst decompression with subpectoral biceps tenodesis resulted in equivalent clinical outcomes for a SLAP lesion with a concomitant paralabral cyst.
- The findings of our study suggest the usefulness of biceps tenodesis for management of patients with a poor biceps condition.