

통증 및 근골격재활

발표일시 및 장소 : 10 월 26 일(금) 13:55-14:05 Room B(5F)

## OP1-1-5

### Comparison of clinical parameters between adhesive capsulitis with and without SASD bursitis

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#### Objective

The purpose of this study was to investigate clinical findings based on the presence of subacromial-subdeltoid (SASD) bursitis in patients with adhesive capsulitis (AC).

#### Methods

One hundred-five patients (36 men, 69 women; mean age, 55.1 + 9.8 years; range, 41-83 years) with a clinical diagnosis of unilateral idiopathic AC with freezing or frozen stage were recruited from June 1st 2014 to January 31th 2018. Contrast-enhanced MRI and ultrasound were performed in all patients. The MRI diagnostic criteria for SASD bursitis were the presence of a fluid collection and enhancement in the subacromial bursa on oblique coronal T2-weighted images and oblique coronal fat-suppressed enhanced T1-weighted images (figure A). The SASD bursitis on ultrasound was defined as fluid or hypertrophic synovium filling the bursa with a thickness of > 2mm (figure B). Clinical parameters including a visual analogue scale (VAS), the Constant-Murley Score (CMS), shoulder passive range of motion (PROM), and Cyriax stage for AC were assessed. Shoulder PROM, including forward flexion, abduction, and external and internal rotation, was measured. The patients were allocated into two groups, forty-six patients with AC (group 1; 21 men, 25 women; mean age, 54.8+9.4 years; range, 41-83 years) and fifty-nine patients with AC and SASD bursitis (group 2; 15 men, 44 women; mean age, 55.3+10.1 years; range, 41-83 years). Clinical parameters were compared between two groups. Calculations were performed to determine the sensitivity, specificity, positive predictive value, negative predictive value, and accuracy of ultrasound for making a MRI diagnosis of SASD bursitis.

#### Results

Patients in group 2 showed more limited shoulder PROM of forward flexion, abduction, and internal rotation ( $110.9 \pm 15.9$ ,  $95.4 \pm 20.9$ , and  $17.2 \pm 10.7$ , respectively) than did patients in group 1 ( $121.8 \pm 13.4$ ,  $106.1 \pm 18.5$ , and  $22.4 \pm 11.5$ , respectively) ( $p < .05$ ) (table). However, there was no significant difference in other clinical parameters between the two groups. There was a significant difference of AC stage between two groups (39 freezing/7 frozen stage in group 1, 40 freezing/ 19 frozen stage in group 2). Ultrasound

showed a sensitivity of 63.3%, specificity of 44.2%, accuracy of 55.3%, positive and negative predictive values of 61.3% and 46.3% for SASD bursitis.

### Conclusions

Our Results indicated that the shoulder PROMs except external rotation in patients with AC and SASD bursitis were more limited than those in patients with AC alone. In addition, the patients with AC in the frozen stage had more SASD bursitis than those in the freezing stage. Therefore, accurate imaging diagnosis and treatment of SASD bursitis is necessary to achieve better outcomes in the patients with AC and SASD bursitis.

Table 1. Demographic data and clinical assessment scale in adhesive capsulitis with/without subacromial-subdeltoid bursitis / Group 1, adhesive capsulitis alone; Group 2, adhesive capsulitis with subacromial-subdeltoid bursitis / \* P-values calculated by chi-squared test † P-values calculated by independent t-test Values are mean  $\pm$  SD.

	Group 1 (n=46)	Group 2 (n=59)	P value
Age (year)	54.8 $\pm$ 9.4	55.3 $\pm$ 10.1	0.765
Sex, n (%)			
Male	21 (58.3)	15 (41.7)	0.030*
Female	25 (36.2)	44 (63.8)	
Symptom duration (month)	5.2 $\pm$ 3.0	5.5 $\pm$ 2.9	0.613
Stage			
Freezing, n (%)	39 (49.4)	40 (50.6)	0.045*
Frozen, n (%)	7 (26.9)	19 (73.1)	
VAS			
Motion	7.3 $\pm$ 1.4	7.7 $\pm$ 1.4	0.177
Resting	2.2 $\pm$ 1.9	2.7 $\pm$ 2.3	0.236
Sleep	6.1 $\pm$ 2.5	5.8 $\pm$ 2.9	0.552
Range of motion (degree)			
Forward flexion	121.8 $\pm$ 13.4	110.9 $\pm$ 15.9	<0.001†
Abduction	106.1 $\pm$ 18.5	95.4 $\pm$ 20.9	0.008†
External rotation	32.9 $\pm$ 13.2	30.8 $\pm$ 10.9	0.370
Internal rotation	22.4 $\pm$ 11.5	17.2 $\pm$ 10.7	0.018†
Cyriax stage	3.3 $\pm$ 0.5	3.1 $\pm$ 0.6	0.117
Constant score	47.8 $\pm$ 8.7	43.9 $\pm$ 10.0	0.099

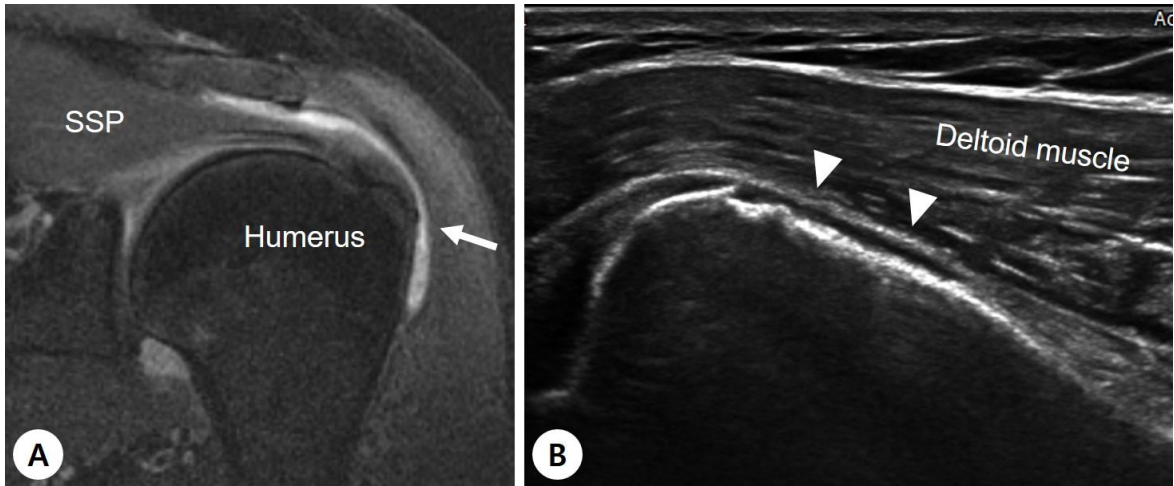


Figure. (A) A contrast enhanced oblique coronal fat-suppressed enhanced T1-weighted MRI showed contrast enhancement of subacromial-subdeltoid (SASD) bursa (white arrow). (B) A corresponding ultrasound image revealed some fluid collection in SASD bursa (arrowhead). Abbreviation: SSP, supraspinatus muscle; GT, greater tuberosity.