ORAL PRESENTATION 1-3

통증 및 근골격재활
발표일시 및 장소 : **10 월 27 일(토) 14:00-14:10 Room B(5F)**

OP1-3-1

Painful arc test: predictor for short term pain relief after subacromial-subdeltoid bursa injection.

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Introduction
Subacromial-subdeltoid (SASD) bursa injection has been widely used to treat a range of shoulder conditions such as impingement syndrome, rotator cuff tendinosis, calcific tendinitis or bursitis. However, these conditions are sometimes difficult to distinguish clinically and sometimes exist at the same time. The purpose of this study was to identify predictor of short-term pain relief after SASD bursa injection

Methods
The medical records of 150 patients who were visited our outpatient clinic from January 1st 2017 to June 1st 2018 and treated with SASD bursa injection were reviewed in this retrospective study. The inclusion criteria were as follows: i) shoulder pain without recent trauma(<1 months), ii) at least one of the following findings is positive; pain arc test (60-120 degrees), empty can test, end range pain at passive flex or abduction, Hawkin test. The exclusion criteria were as follows; i) limited range motion of shoulder in capsular pattern, ii) pain from AC joint, iii) pain from cervical origin, iv) follow up loss. All the injections were conducted by an experienced physiatrist under ultrasound guidance on an outpatient basis. A mixture of 10 mg (0.25cc) of triamcinolone acetonide suspension and 5 cc of 0.5% lidocaine was injected to the SASD bursa. Oral analgesics were prescribed to all the patients. Ultrasound findings of the shoulder was recorded on the chart. All the patients were instructed to visit the clinic after 2 weeks. The short term pain relief were defined as the group with a reduction greater than 50% on NRS compared with initial visit. We conducted independent t-test, Fisher's exact test and chi-squared test to demonstrate the statistical difference. And univariate logistic regression analysis was used to identify the predictor. P-value<0.05 was considered statistically significant.

Results
Based on the inclusion and exclusion criteria, 83 out of 150 patients were included in this study. Demographics, medications prescribed, physical examination, and ultrasound findings were compared between the good and poor response groups (Table 1,2,3). A

statistically significant difference was observed only in the proportion of painful arc test. An univariate logistic regression analysis demonstrated that positive painful arc test increased the odds of significant improvement 2 weeks after SASD bursa injection.(p=0.04, OR=3.98).

Conclusions

The positive painful arc test is likely to predict a short term good response 2 weeks after SASD bursa injection. Other physical and ultrasonographic findings were not associated with the short term response prediction. The Results should be validated via randomized prospective studies in the future.

Table 1. Summary of dermographics and medications.

Variables		Values		
		Poor response(n=29)	Good response(n=54)	P-value
Demographic				
Sex	Male	13	28	0.54
	Female	16	26	
Age		56.7±9.2	55.7± 14.1	0.70
Medication				
NSAIDs		27	46	0.33
NSAIDs/ AAP		0	1	
NSAIDs/AAP/Tramadol		1	4	
AAP		1	0	
AAP/Tramadol		0	3	

Data are expressed as mean ± standard deviation or absolute number.

NSAIDs :non-steroidal anti-inflammatory drugs, AAP : acetaminophen, SST : supraspinatus

Table 2. Summary of physical exam findings

Variables		Values		
		Poor response(n=29)	Good response(n=54)	P-value
Physical exam				
ROM	Flexion	164.8±20.0	171.4±16.7	0.11
ROM	Abduction	160.7±26.0	170.2±20.0	0.07
Empty can	Positive	21	41	0.73
	Negative	8	13	
Hawkin test	Positive	14	17	0.13
	Negative	15	37	
Pain arc test	Positive	3	17	0.03*
	Negative	26	37	

Data are expressed as mean ± standard deviation or absolute number.

Table 3. Summary of ultrasound findings

Variables		Values		
		Poor response(n=29)	Good response(n=54)	P-value
Ultrasound				
Bicipital groove	Normal	20	43	0.28
	Fluid	9	11	
SST tear	No	3	15	0.12
	Partial	17	21	
	Full	9	18	
SST swelling	No	20	42	0.38
	Swelling	9	12	
Calcification	No	22	40	0.60
	Type 1	2	4	
	Type 2	5	7	
	Type 3	0	3	

Data are expressed as mean ± standard deviation or absolute number.