통증 및 근골격재활

발표일시 및 장소: 10 월 18 일(금) 13:25-13:35 Room A(5F)

OP1-1-2

Ultrasound findings of asymptomatic shoulder in the patients with unilateral calcific tendinitis.

Gi-Young Park[1†], Dong Rak Kwon[1], Dong Han Kim[1*]

Daegu Catholic University Medical Center, Department of Rehabilitation Medicine[1]

Objective

To evaluate ultrasound (US) findings of symptomatic shoulder in the patients with symptomatic unilateral calcific tendinitis and compare the US findings between symptomatic and asymptomatic calcification.

Methods

Forty-six patients (46 patients, 9 men, 37 women; mean age, 55.3 years; range, 34-75 years) that were diagnosed as calcific tendinitis of shoulder on US were recruited from June 1st 2018 to June 31th 2019. The patients visited outpatient clinic due to unilateral shoulder pain, and US examination was conducted on both shoulders. US morphology of calcification was classified as arc-shaped, fragmented, nodular, and linear type (Figure 1). Shadow of calcification on US was classified as type 1 (well-defined shadow), type 2 (faint shadow), and type 3 (no shadow). Size of calcification was measured as the maximal longitudinal and transverse diameters on US. Location of calcification in tendon was classified as bursal side, articular side, and full-thickness involvement. The patients were allocated into two groups according to the presence of calcification in asymptomatic shoulder; group 1 (calcification in asymptomatic shoulder) and group 2 (no calcification in asymptomatic shoulder). In group 1, US findings of calcification were compared between asymptomatic and symptomatic shoulders.

Results

Asymptomatic calcification in asymptomatic shoulders was detected on US in thirty shoulders out of fourty-six shoulders (65.2%). Age in group 1 (mean age, 57.2 ± 8.7 years; range, 44-75 years) is significantly greater than that in group 2 (mean age, 51.6 ± 7.6 years; range, 34-65 years) (p=0.035). However, there was no significant difference of the other demographic variables between two groups (Table 1). In asymptomatic shoulders of group 1, the most common US morphology of calcification was fragmented type (15 cases, 50%), followed by linear type (7 cases, 23.3%), nodular type (6 cases, 20%), and arc-shaped type (2 cases, 6.7%). In group 1, longitudinal and transverse diameters of calcification on ultrasound in asymptomatic shoulders (5.1 ± 2.7/2.5 ± 1.2) were significantly smaller than those in symptomatic shoulders (8.0 ± 3.9/6.9 ± 3.2) (p=0.001) (Table 2). However, there was no significant difference of ultrasound morphology, shadow, and location of calcification between asymptomatic and symptomatic shoulder in group 1.

Conclusions

Our results indicated that the calcification in asymptomatic shoulder was found in 65.2% of the patients with symptomatic unilateral calcific tendinitis. The mean age of the patients with

calcification in asymptomatic shoulder was significantly greater than those without calcification in asymptomatic shoulders. The size of calcification in asymptomatic shoulder was significantly smaller than that in symptomatic shoulder. Therefore we recommend US examination in asymptomatic shoulder to detect calcification in the patients with unilateral shoulder calcific tendinitis.

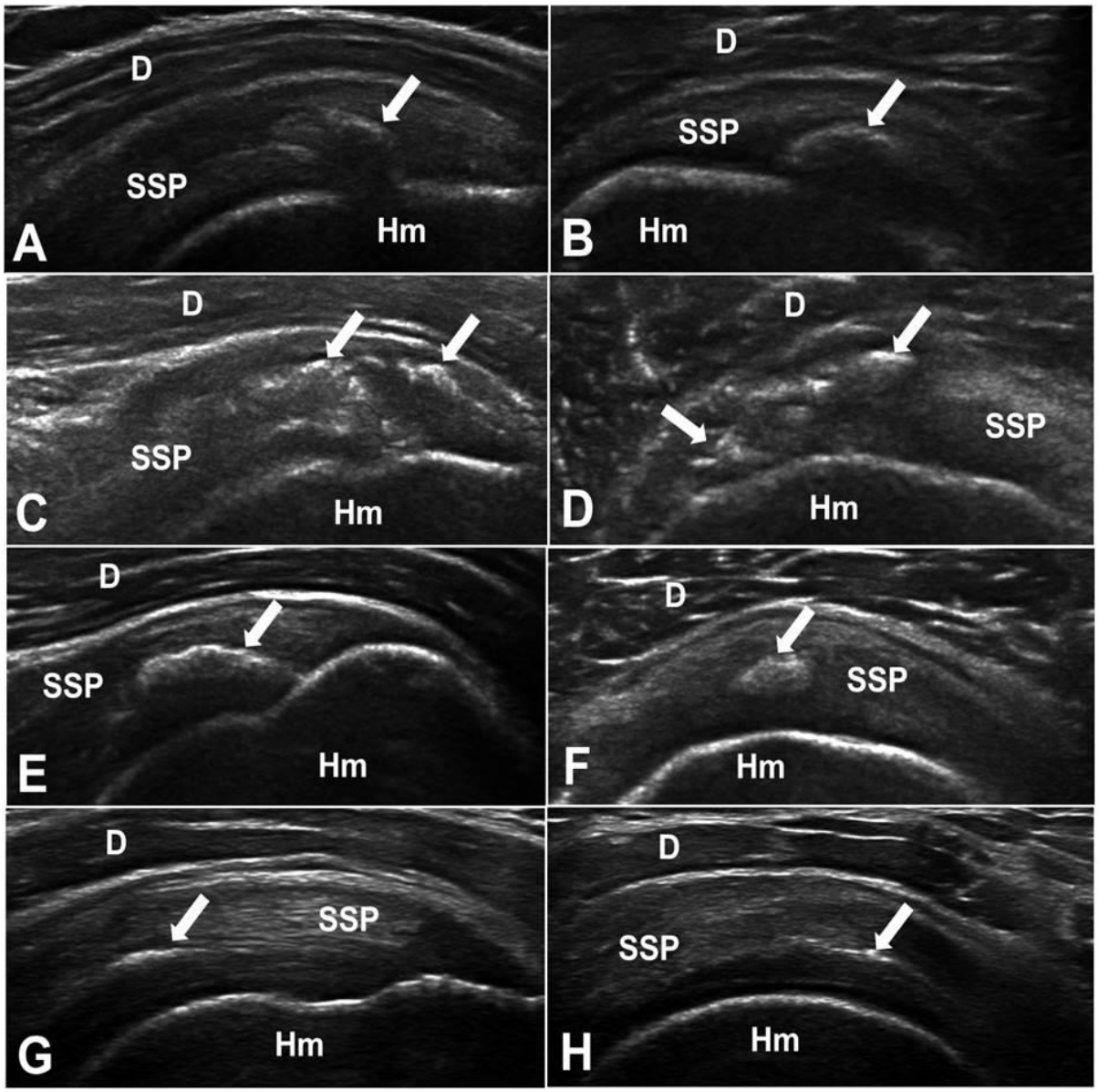

Figure 1. Morphology of calcification on longitudinal and transverse ultrasound imaging. (A, B) arc-shaped type (C, D) fragmented type, (E, F) nodular type, (G,H) linear type; D, deltoid muscle; SSP, supraspinatus muscle; Hm, humeral head; arrow, calcification.

Table 1. Demographic data in patients with unilateral symptomatic calcific tendinitis

	Group 1 (n=30)	Group 2 (n=16)	P value
Age (year)	57.2 ± 8.7	51.6 ± 7.6	0.035*
Sex, n (%)			
Male	5 (16.7)	4 (25)	0.497
Female	25 (83.3)	12 (75)	
Weight (kg)	57.1 ± 8.9	58.6 ± 6.9	0.530
Height (cm)	160.5 ± 7.4	161.5 ± 6.5	0.662
Body mass index	22.1 ± 2.1	22.5 ± 2.3	0.888
Symptom duration (months)	2.3 ± 2.6	3.1 ± 3.1	0.920
Associated disease, n (%)			
Diabetes mellitus	6 (20)	3 (13.3)	0.581
Hypertension	8 (26.7)	1 (6.7)	0.114
Thyroid disease	4 (13.3)	0 (0)	0.138
Heart disease	1 (3.3)	0 (0)	0.475
Symptomatic shoulder diagnosis, n (%)			
Subacromial bursitis	22 (73.3)	13 (81.3)	0.549
Adhesive capsulitis	8 (26.7)	3 (18.8)	

Group 1, asymptomatic shoulder with calcification; group 2, asymptomatic shoulder without calcification

Values are mean ± SD.

* P-values calculated by chi-squared test

Table 2. Comparison of US findings between asymptomatic and symptomatic calcification in the patients with unilateral calcific tendinitis (group 1).

	Asymptomatic	Symptomatic	P value
Morphology, n (%)			
Fragmented	15 (50)	17 (56.7)	0.134
Nodular	6 (20)	8 (26.7)	
Arc-shaped	2 (6.7)	4 (13.3)	
Linear	7 (23.3)	1 (3.3)	
Longitudinal diameter (mm)	5.1 ± 2.7	8.0 ± 3.9*	0.001
Transverse diameter (mm)	2.5 ± 1.2	6.9 ± 3.2*	<0.001
Shadow of calcification			
Type 1	3 (10)	10 (33.3)	0.061
Type 2	14 (46.7)	13 (43.3)	
Type 3	13 (43.3)	7 (23.3)	
Location, n (%)			
Articular	11 (36.7)	11 (36.7)	0.619
Bursal	12 (40)	9 (30)	
Full-thickness	7 (23.3)	10 (33.3)	

Values are mean ± SD.

* P-values calculated by independent t-test