

Successive Acute Calcific Tendinitis on Different Sites: Three Cases ReportSeung-Wook No^{1*}, Yong Min Choi¹, Du Hwan Kim^{1†}Keimyung University Dongsan Medical Center, Department of Rehabilitation Medicine¹**Introduction**

Acute calcific tendinitis (ACT) is a benign painful inflammatory disorder characterized by the resorptive process of calcific deposit following the formation of calcium hydroxyapatite crystals in tendons. It can occur at various sites, especially shoulder or hip joint. ACT involving the lateral epicondyle of humerus and cervical spine is very rare. Also, there have been few reports demonstrating successive ACT at different sites. We report three female cases with successive ACT, one with the lateral epicondyle after subscapularis, another with supraspinatus after flexor carpi ulnaris, and the last with iliopsoas following longus colli.

Case

Three females with successive ACT were studied. A summary of the findings in three patients is shown in Table 1. Figure 1 and 2 demonstrate the imaging studies in case 1 and 3 respectively. Case 1 is described representatively. A 55-year-old female presented with one-day history of acute right shoulder pain. She had no history of recent trauma or vigorous sports activity. Active shoulder movement was impossible because of severe pain. Laboratory study revealed increase of ESR and CRP level without leukocytosis. A plain radiography revealed homogenous ill-defined calcifications in the region of subscapularis tendon (Fig. 1A). MRI showed calcific deposit with muscle edematous change in the subscapularis (Fig. 1B). Based on the clinical presentation and imaging findings, a diagnosis of ACT of the subscapularis was made. After administering NSAID, her symptoms were markedly resolved within 2 days. Follow-up plain radiography at 2 months showed complete solution of calcific deposit (Fig. 1C). Two years later, she presented with one-day history of acute right elbow pain. On examination, there was severe focal tenderness over the lateral epicondyle with local heatness. A plain radiographs showed curvilinear calcification adjacent to the lateral epicondyle (Fig. 1D). Ultrasonography revealed hyperechoic calcific foci of the common extensor tendon at the lateral epicondyle (Fig. 1E). With the barbotage procedure and peritendon steroid injection (a mixture with 2cc 1% lidocaine and 20mg triamcinolone acetonide), the patient had marked improvement of her symptoms within 2 days with no recurrence at two-months follow-up. Follow-up radiographs showed near complete dissolution of the calcific foci with faint residual linear calcifications (Fig. 1F).

Discussion

In conclusion, we report three female cases of successive ACT at different sites including unusual site such as elbow or neck. The bibliographic references for the successive ACT are limited. However, it is estimated that the incidence of successive ACT is not uncommon, considering the fact that nearly every tendon in the body is vulnerable to

calcific tendinitis. Our cases may enhance the understanding of various clinical manifestations of ACT for the clinicians.

Table 1. Summary of the clinical findings

	Case 1 (Fig. 1)		Case 2		Case 3 (Fig. 2)	
	First ACT	Second ACT	First ACT	Second ACT	First ACT	Second ACT
Sex	Female		Female		Female	
Job	Librarian		Nurse aide		Housewife	
Age	55	57	50	50	60	69
Interval	2 years		5 months		9 years	
ACT area	Subscapularis	Common extensor of wrist	Flexor carpi ulnaris	Supraspinatus	Longus colli	Iliopsoas
Main symptoms	Shoulder pain	Elbow pain	Wrist pain	Shoulder pain	Neck pain	Hip pain
Symptom duration	1 days	1 day	3 days	2 days	3 days	2 days
Focal tenderness	Yes	Yes	Yes	Yes	No	Yes
Local heating	No	Yes	Yes	No	No	No
ROM limitation	Yes	Yes	Yes	Yes	Yes	Yes
Fever	No	No	No	No	No	No
Laboratory finding	WBC ¹ 7940 ESR ² 72 CRP ³ 0.86	WBC 11010 ESR 69 CRP 3.29	WBC 4600 ESR 40 CRP 0.20	WBC 7660 ESR 42 CRP 1.26	WBC 6060 ESR 54 CRP 3.53	WBC 6950 ESR 45 CRP 0.28
Co-morbidities	Total thyroidectomy (thyroid cancer)		None		Recurrent oral ulcer not meeting Behcet's disease (HLA B51 positive)	
Treatments	NSAID	NSAID Barbotage Peritendon steroid injection	NSAID Oral steroid	NSAID Barbotage	NSAID	NSAID Oral steroid
Remark	Asymptomatic supraspinatus calcification	None	None	Calcific bursitis	Odynophagia Torticollis due to pain	None

ACT, acute calcific tendinitis; ROM, range of motion; NSAID, non-steroidal anti-inflammatory drug

¹WBC is presented as cells/mm³ (reference range: <10,000)

²ESR is presented as mm/h (reference range: <25)

³CRP is presented as mg/dL (reference range: <0.5)



Fig 1(Images of case 1). (A) A radiograph of the right shoulder demonstrates 10 mm sized homogenous ill-defined calcifications (arrow) in the region of subscapularis tendon. (B) MRI shows calcific deposit (arrow) with muscle edematous change (arrowhead) in the subscapularis. (C) Two-months follow-up radiograph reveals resolved calcific mass. (D) A radiograph of the right elbow demonstrate 9 mm sized ill-defined calcification (arrows) in the common extensor tendon. (E) Ultrasonography reveals hyperechoic calcific deposit (arrows) with increased vascularity in the common extensor tendon. (F) Two-months follow-up radiograph demonstrates partial dissolution of the calcific foci with residual linear calcifications (arrow).



Fig 2(Images of case 3). (A) A radiograph of cervical spine demonstrates small calcific deposit (arrow) in the C2 body anteriorly with the widening of prevertebral soft tissue space. (B) MRI reveals calcific deposit (arrow) with muscle edematous change (arrowhead) in the longus colli. (C) Coronal view of hip MRI shows calcific deposit (arrow) around anterior inferior iliac spine with muscle edematous change (arrowhead) in the iliacus.