

# Acute Calcific Periarthritis of Acromioclavicular Joint: A Case Report

Shila Awal<sup>1</sup>, Nabaraj Acharya<sup>1</sup>, Lila Awal<sup>2</sup>, Nabin Prajapati<sup>3</sup>, Kunal Gupta<sup>4</sup>, and Ayushi Srivastava<sup>5</sup>

<sup>1</sup>Nepalese Army Institute of Health Sciences College of Medicine

<sup>2</sup>Rangpur Medical College

<sup>3</sup>norvic international hospital

<sup>4</sup>Patan Academy of Health Sciences

<sup>5</sup>Norvic International Hospital

February 10, 2023

## Abstract

Deposition of hydroxyapatite crystals in the para-articular soft tissues is a well-known condition. However, this condition has been rarely described in acromioclavicular joint . We report a case of 55 year gentleman, presented with acute onset of shoulder pain , who was diagnosed with calcific periarthritis of acromioclavicular joint.

## INTRODUCTION

Hydroxyapatite deposition disease, characterized by deposition of calcium crystals around para-articular soft tissues, is often monoarticular and can involve various joints, shoulder being the most common. Other joints like elbow, wrist, hip, knee, ankle, foot, hand and spine can also be affected.<sup>1</sup> However, the deposition of calcium salts in the form of an acute calcification around the acromioclavicular joint is a rare condition.<sup>2</sup> This condition is usually self-limiting. Unfortunately, some patients remain symptomatic, with no radiographic evidence of improvement.<sup>3</sup> This report present a case of acute calcific periarthritis of acromioclavicular joint, presented with acute pain of shoulder, managed conservatively.

## CASE REPORT

A 55 year gentleman, presented with complain of pain over left shoulder for 1 week. The pain started a day after lifting a heavy load; pain was continuous and progressive, non-radiating, aggravated by movement and sleeping on that side. He reported pain to be severe enough to prevent from performing daily activities. He denied history of trauma, fever and any systemic or metabolic disorders.

On examination, there was local rise of temperature over the left acromioclavicular joint, was tender to touch, there was no swelling and redness of the overlying skin. Both active and passive range of motion was limited due to pain. There was no lymphadenopathy and neurological examination was normal.

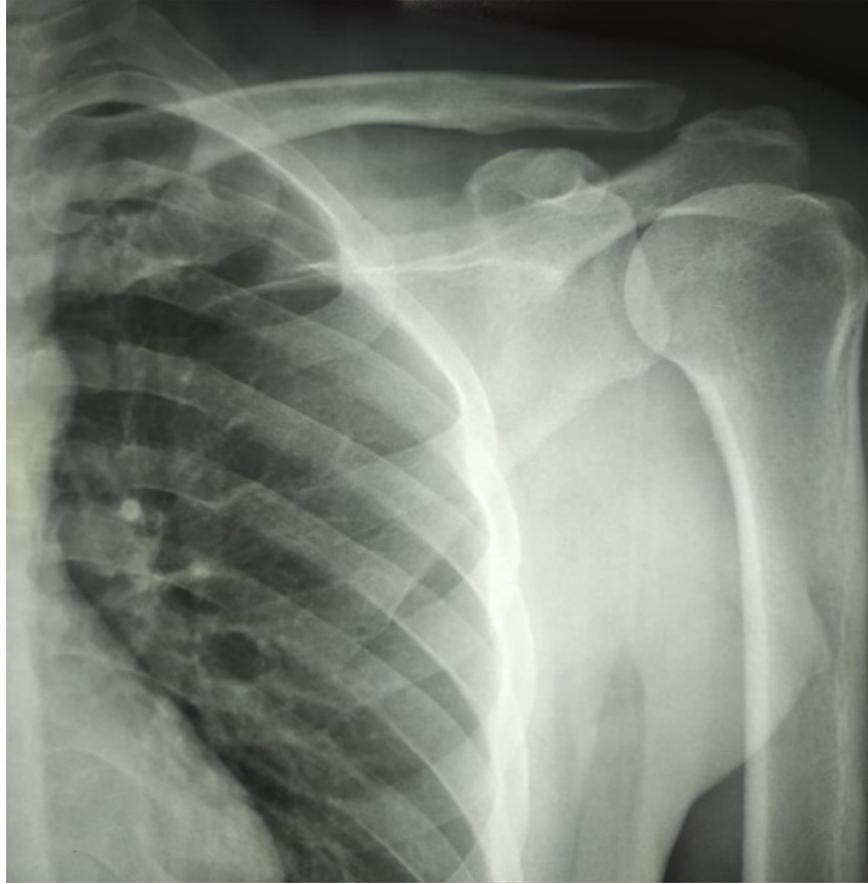
Plain radiographs of the region revealed presence of calcific deposits in the acromioclavicular joint. There was no alteration of bone structures of the joint (Figure 1A and 1B). Complete blood count was within normal range.





**Figure 1. Plain radiograph of shoulder (A) Anterior posterior view (B) Scapular Y view.**

After clinical examination and radiological findings, a diagnosis of calcific periarthritis of acromioclavicular joint was made. Patient was advised for relative functional rest for 10 days, taking care not to use left upper limb to move heavy loads and to avoid overhead activities. He was also prescribed NSAIDs for 7 days. Patient was followed after 2 months, reported the disappearance of pain and recovery of full range of movement of shoulder, both active and passive. Radiographic findings supported the disappearance of the calcific deposits in the joint. (Figure 2)



**Figure 2. Complete disappearance of calcific deposit in 2 months follow up.**

When patient was contacted after 7 months, he reported that there had been no recurrence of symptoms of pain or functional limitation of the shoulder.

## DISCUSSION

Aromioclavicular pain is a common condition usually arising due to traumatic causes and less commonly due to atraumatic causes such as infections and arthritis.<sup>2</sup> Acute calcific periarthritis is a rarely diagnosed condition of acromioclavicular joint and frequently misdiagnosed as septic arthritis and fractures. This is especially the case when calcification involves the joints other than shoulder.<sup>4</sup> Mostly affecting the people between 4<sup>th</sup> and 6<sup>th</sup> decades, calcific periarthritis shows equal sex distribution.<sup>1</sup>

Acute calcific periarthritis can present with varying signs and symptoms including pain, redness, swelling and limited movements of the joint.<sup>5</sup> The pathophysiology can be described as the deposition of hydroxyapatite along with inflammatory cells, mostly neutrophils.<sup>6</sup>

Several imaging modalities are helpful in diagnosing the condition. Radiography is the key diagnostic modality for evaluating calcific deposition. Sequential x-ray films are cost effective and helps in recognizing change in the size and location, and even spontaneous disappearance.<sup>7,8</sup> Ultrasound is useful in both diagnostic and therapeutic purpose, particularly in the shoulder.<sup>9</sup>

Treatment options include conservative and surgical therapy. Nonsurgical therapy is the mainstay of treatment, with NSAIDs, physical therapy, local hot or cold compression and corticosteroid injections comprising first- line treatment.<sup>1,10</sup>

Although the presentation of acute calcific periarthritis may confuse the clinicians leading to misdiagnosis, the radiographic finding of calcification is highly suggestive of the diagnosis. Patient may be subjected to various diagnostic and invasive procedures such as joint aspiration due to lack of familiarity to this condition.<sup>4</sup> Hence it is of utmost important to be aware of this disease condition so as to minimize incorrect diagnoses.

## ACKNOWLEDGEMENTS

We would like to thank the Department of Orthopaedics, Nepalese Army Institute of Health Sciences, Kathmandu, Nepal.

**Conflict of Interest: None.**

**Consent :** Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

## REFERENCES

1. Garcia GM, McCord GC, Kumar R. Hydroxyapatite crystal deposition disease. *Semin Musculoskelet Radiol.* 2003 Sep;7(3):187-93. [FullText] | [PubMed]
2. Iovane A, Di Gesù M, Mantia F, Thomas E, Messina G. Ultrasound-guided percutaneous treatment of a calcific acromioclavicular joint: A case report. *Medicine (Baltimore).* 2020 Jan;99(1):e18645. [PubMed] | [DOI]
3. Sansone V, Maiorano E, Galluzzo A, Pascale V. Calcific tendinopathy of the shoulder: clinical perspectives into the mechanisms, pathogenesis, and treatment. *Orthop Res Rev.* 2018 Oct 3;10:63-72. [PubMed] | [Fulltext] | [DOI]
4. Walker JA, McLean ER, Anakwe RE. Acute calcific periarthritis secondary to calcium hydroxyapatite crystal deposition in the wrist: a case report. *J Surg Case Rep.* 2020 Dec 29;2020(12):rjaa524. [PubMed] | [Fulltext] | [DOI]
5. Friedman SN, Margau R, Friedman L. Acute calcific periarthritis of the thumb: Correlated sonographic and radiographic findings. *Radiol Case Rep.* 2017 Oct 21;13(1):205-207. [PubMed] | [Fulltext] | [DOI]
6. Dumas C, Vazirani RM, Clifford PD, Owens P. Acute calcific periarthritis of the hand and wrist: a series and review of the literature. *Emerg Radiol.* 2007 Sep;14(4):199-203. [PubMed] | [DOI]
7. Faure G, Daculsi G. Calcified tendinitis: a review. *Ann Rheum Dis.* 1983 Aug;42 Suppl 1(Suppl 1):49-53. [PubMed] | [Fulltext] | [DOI]
8. DEPALMA AF, KRUPER JS. Long-term study of shoulder joints afflicted with and treated for calcific tendinitis. *Clin Orthop.* 1961;20:61-72. [PubMed]
9. Aina R, Cardinal E, Bureau NJ, Aubin B, Brassard P. Calcific shoulder tendinitis: treatment with modified US-guided fine-needle technique. *Radiology.* 2001 Nov;221(2):455-61. [PubMed] | [DOI]
10. Suzuki K, Potts A, Anakwenze O, Singh A. Calcific tendinitis of the rotator cuff: management options. *J Am Acad Orthop Surg.* 2014 Nov;22(11):707-17. [PubMed] | [DOI]