Calcific Subacromial Bursitis In A 53-Year-Old Manual Worker: Complete Resolution Of Chronic Pain Following Radial Shock Wave Therapy

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Abstract
Calcific subacromial bursitis is a frequent cause of shoulder pain, often associated with rotator cuff overload and repetitive overhead work. This report presents a 53-year-old ceiling repair worker who developed severe right shoulder pain due to a large subacromial calcific deposit. Prior treatment with nonsteroidal anti-inflammatory drugs (NSAIDs) provided no relief, and a rheumatologist initially recommended surgical intervention because of the size of the calcification and the patient's high pain levels. The patient instead pursued a conservative programme consisting of radial extracorporeal shock wave therapy (R-ESWT) combined with structured physiotherapy. Following this integrated approach, he experienced dramatic clinical improvement, near-complete radiological resorption of the calcification, and a full return to unrestricted occupational activity. This case highlights the substantial therapeutic value of non-invasive treatment in patients with calcific bursitis, even when classical indicators might favour surgical management.

Introduction

Calcific tendinopathy and bursitis of the shoulder are characterised by the deposition of calcium hydroxyapatite crystals within periarticular soft tissues, most frequently the rotator cuff tendons and the subacromial bursa [1,2] These deposits can provoke significant inflammatory responses and mechanical irritation, resulting in pain, sleep disruption, and functional disability [3,4]. Patients who perform repetitive overhead activity are particularly vulnerable to this condition due to cumulative mechanical stress on the subacromial space [5].

Surgical removal of calcific deposits may be considered when symptoms are severe or refractory to initial conservative treatments [6]. However, emerging evidence increasingly supports the efficacy of extracorporeal shock wave therapy, especially when combined with a well-structured physiotherapy protocol aimed at restoring muscular balance, neuromuscular control, and shoulder biomechanics [7]. This case report details the successful non-surgical management of a patient with a large and painful calcific subacromial bursitis.

Case Report

A 53-year-old male ceiling repair worker, in otherwise good health and with no relevant comorbidities, presented with progressive right shoulder pain that had persisted for more than three months. His occupation required frequent overhead tasks, and the pain had gradually intensified to the point of severely limiting his work performance. He described the pain as constant, sharp, and exacerbated by arm elevation or overhead use, with frequent nocturnal worsening that significantly disrupted sleep. Pain intensity ranged between 8 and 10 on the Visual Analog Scale (VAS). A prior course of NSAIDs had been ineffective, and he had never undergone physiotherapy before seeking care.

Clinical examination revealed a marked reduction in range of motion across flexion–extension, abduction–adduction, and internal and external rotation. Movement was principally limited by pain, rather than capsular tightness. Passive movements produced a painful muscular spasm end-feel, distinct from the firm end-feel characteristic of capsular restriction. Palpation elicited tenderness in

the subacromial region, and provocative testing suggested irritation of the rotator cuff and bursal tissues.

Standard radiography of the right shoulder demonstrated a large, well-defined subacromial calcific deposit positioned over the rotator cuff tendons, consistent with calcific bursitis. The imaging findings correlated strongly with the patient's clinical presentation and were considered a likely driver of both inflammation and mechanical impingement. A rheumatologist, reviewing the case, advised that surgery was the most viable option, given the size of the calcification and the severity of symptoms. Nevertheless, the patient opted to attempt conservative management and was referred for physiotherapy.

Intervention

The patient commenced a programme of radial extracorporeal shock wave therapy (R-ESWT), receiving eight sessions over a four-week period. The therapeutic intent was to induce fragmentation and subsequent resorption of the calcific material, modulate nociceptive pain, reduce local inflammation, and promote biological changes conducive to tissue recovery.

Simultaneously, he engaged in a structured physiotherapy regimen tailored to his functional limitations and occupational demands. The protocoll emphasised progressive restoration of shoulder mobility, strengthening of the rotator cuff and scapular stabilisers, and enhancement of neuromuscular control to optimise scapulohumeral rhythm [8,9]. Physiotherapy sessions also addressed faulty movement patterns and provided strategies to normalise shoulder mechanics during both daily and occupational activities.

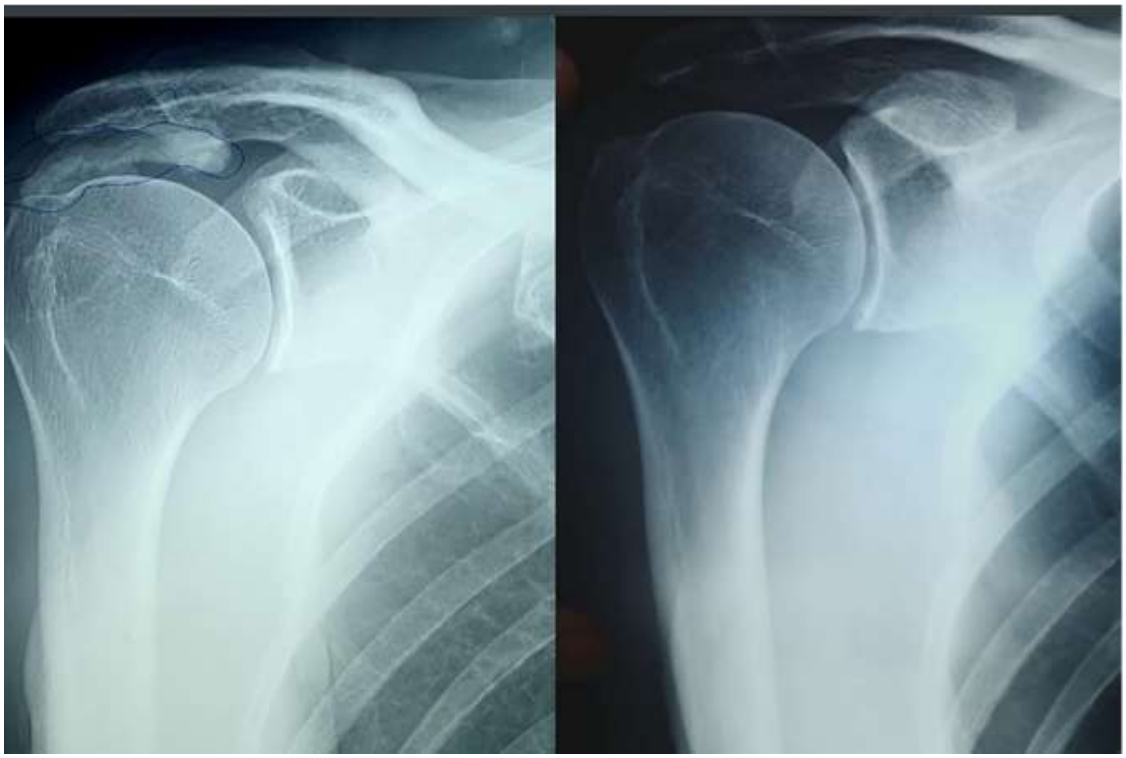
Outcome

At the completion of treatment, the patient exhibited remarkable improvement. Clinically, pain had decreased to between 0 and 2 on the Visual Analog Scale (VAS), and the patient reported no nocturnal symptoms. Range of motion had returned to nearly normal levels, with movements performed freely and without discomfort [10,11]. The pain-related muscular spasm previously observed during passive movements had fully resolved. Functionally, the patient resumed his ceiling repair work without restrictions and reported no recurrence of symptoms during subsequent weeks. Given the successful outcome, surgical management was deemed unnecessary. Clinical and imaging outcomes observed before and after the conservative intervention are summarised in Table 1. Follow-up radiography revealed an almost complete disappearance of the subacromial calcific deposit. Baseline and post-treatment radiographs demonstrating the evolution of the subacromial calcific deposit are presented in Figure 1

Table 1. Clinical outcomes before and after conservative treatment

Parameter	Baseline (Pre-treatment)	Post-treatment (4 weeks)
Pain intensity (VAS, 0–10)	8–10	0–2
Nocturnal pain	Present	Absent
Active shoulder ROM	Severely limited by pain	Near-normal, pain-free
Passive movement end-feel	Painful muscular spasm	Normal, non-painful
Subacromial calcification (X-ray)	Large, well-defined deposit	Almost complete resolution
Work ability	Unable to perform overhead tasks	Full return to work

Figure 1. Baseline and Post-treatment radiograph of the right shoulder



Baseline **Postreatment**

Discussion

This case illustrates the efficacy of a combined treatment strategy involving R-ESWT and targeted physiotherapy in resolving both symptoms and structural pathology associated with calcific subacromial bursitis. Although the size of the calcification and the severity of pain initially prompted a surgical recommendation, the conservative approach resulted in complete clinical recovery and near-total radiological resolution. [3,5].

Shock wave therapy is believed to promote calcific fragmentation, enhance metabolic activity, and reduce local inflammatory mediators, thereby accelerating the resorptive phase of calcific tendinopathy. When supplemented with a physiotherapy programme that restores muscular balance, joint mobility, and neuromuscular function, outcomes may rival those achieved through surgical means while avoiding associated risks, costs, and recovery periods [4,12].

In manual workers dependent on overhead limb use, functional rehabilitation is particularly critical. This patient's rapid improvement emphasises the importance of addressing both tissue health and movement quality, rather than relying solely on passive treatment modalities. [7,8,13].

Conclusion

The successful resolution of severe calcific subacromial bursitis in this patient demonstrates that even large and symptomatic calcific deposits can respond favourably to a conservative programme combining radial shock wave therapy with structured physiotherapy. This case reinforces the value of non-invasive, evidence-based interventions as a first-line treatment for calcific shoulder disorders and supports their use in avoiding unnecessary surgical procedures [3,5,12].

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