

Shoulder pain out of the blue

A patient presents with a sudden-onset sharp and burning pain down the side of her upper arm

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By Dr Doron Sher |

0 Comments

Emma, a 32-year-old, right-handed accountant presented with severe right shoulder pain.



The pain developed over a 24-hour period and there was no history of prior injury.

She does not play any regular sports and had not used the shoulder for any physical activities prior to the onset of the pain. She does not have diabetes.

The pain was localised to the lateral aspect of her upper arm, and was sharp and burning in nature.



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Examination

Clinical examination showed a very irritable shoulder generally.

Her range of motion was limited by pain, particularly with active forward elevation of the arm. Passive movement was much less restricted. Allowing for the pain, her rotator cuff power was close to normal.

There were no signs of infection and her temperature was normal.

With her arm by her side, Emma's glenohumeral joint was not irritable, but her impingement signs were strongly positive and a provisional diagnosis of calcific tendonitis was made.

Investigations

A plain X-ray series was requested. These films demonstrated calcific deposits in the tendons of the shoulder (see figures 1 and 2).

These findings, in addition to the clinical symptoms and signs, confirmed the diagnosis of calcific tendonitis and no further investigations were deemed necessary.

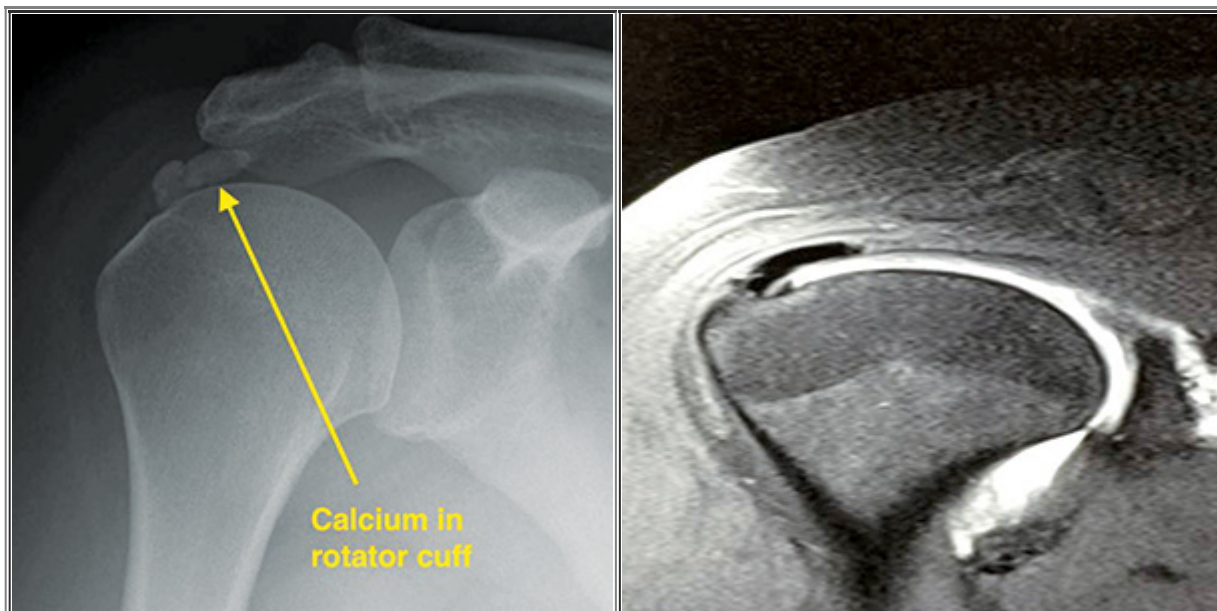


Fig 1: X-ray showing calcific deposits (white) in rotator cuff.

Fig 2: MRI showing calcific deposit (black) in the supraspinatus.

Management

Emma's subacromial space was injected with 8mL of 1% xylocaine and celestone chronodose. This resulted in almost immediate pain relief.

The nature and expected course of the disease was explained to Emma and she was prescribed physiotherapy.

Emma's recovery continued and at four weeks follow-up, she was completely symptom-free.

Discussion

Calcific tendonitis is a relatively common shoulder condition, most often affecting women around the age of 40. It is more common in people with diabetes.

It occurs when calcium deposits, present in the rotator cuff tendons, cause inflammation in the surrounding tissues.

Calcium deposits in the shoulder occur in 2.5- 7.5% of the population and are usually asymptomatic. Why the deposits occur and why they cause tendon inflammation is not known, but they are not related to diet or injury.

There are several stages of calcification: pre-calcification, calcific and post-calcific.

The **pre-calcification stage** is usually asymptomatic. The sites where the calcifications develop undergo cellular changes that predispose calcium deposition in the tissues.

In the **calcific stage**, calcium is excreted from cells and coalesces into calcium deposits. It looks chalky (not a solid piece of bone).

Once the calcium deposits have formed, the 'resting phase' begins.

This is typically not painful and the time frame can be variable. The resting phase is followed by the resorptive phase, which is when most of the pain occurs as the body mounts an inflammatory reaction to the calcium and the tendons become acutely inflamed.

The calcium deposits at this stage appear like toothpaste.

These acute, severe symptoms of calcific tendonitis tend to resolve spontaneously within three weeks, but the pain may be severe and the need for relief may be urgent.

Pain is typically felt down the side of the upper arm and can interfere with sleep.

In the **post-calcific stage**, the inflammation and pain has resolved.

The calcium deposit disappears and rotator cuff tendon is remodelled with normal-looking tissue.

Calcific tendonitis can be managed with appropriate non-operative treatment, such as NSAIDs, physiotherapy and subacromial corticosteroid injections.

Physiotherapy, in the form of scapular retraction exercises and an exercise band rotator cuff program, is usually helpful in promoting recovery.

A number of other treatment options are available but the evidence for their effectiveness varies considerably.

These include extracorporeal shockwave therapy, needling and lavage.

Some cases do not respond well to non-operative management, with symptoms persisting beyond a month.

Shoulder impingement can develop if the calcium deposits reduce the space between the acromion and the rotator cuff, 'pinching' the tendons when the arm is raised overhead.

Surgical removal of the calcific deposits may become necessary.

The procedure is performed arthroscopically with removal of the calcified deposit and subacromial decompression.

MAIN POINTS

- Calcific tendonitis is a relatively common condition.
- Diagnosis is usually clinical, with X-ray evidence of calcium deposits.
- The resorptive phase of calcific tendonitis can be very distressing for the patient but is usually self-limiting.
- Subacromial injections are commonly effective in relieving the pain.
- Surgery is effective but rarely needed.

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