Spontaneous resorption of calcification at the long head of the biceps tendon

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Abstract

Calcific tendinitis of the long head of the biceps tendon is a rare cause of shoulder pain. Calcium deposits are often spontaneously resorbed or reduced in size in the rotator cuff tendons, which represent the most common sites of calcific tendinitis around the shoulder. To our knowledge, no case of spontaneous resorption of calcification in the long head of the biceps tendon has been reported in the literature. Here, we report one such case and describe its successful treatment using a conservative approach.

Keywords

Calcification, labrum, long head of biceps tendon

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Introduction

Calcific tendinitis is a common cause of shoulder complaints.¹ It is characterized by the presence of calcific deposits in the tendons, mostly affecting the rotator cuff, especially the supraspinatus tendon.^{2,3} The attachment of the biceps–labral complex is an uncommon location for calcific tendinitis, and it may be misdiagnosed as periarthritis of the shoulder joint. We report a case of calcification in the long head of the biceps tendon in which the calcification was spontaneously resorbed.

Case report

A 59-year-old man presented with a pain during activities of daily living and reduced range of motion in the left shoulder lasting 6 months. In particular, he felt an acute sharp pain when he held something behind his back (shoulder abduction during extension). He had no history of trauma. He had a clinical history of ureterolithiasis, cholelithiasis and hyperlipidaemia. Physical examination of the left shoulder revealed forward flexion limited to 145°, extension to 65°, abduction to 165°, external rotation to 50° and internal rotation to L1. No signs of instability were observed. The patient had negative Neer, Hawkin, Speed and Yergason tests. All rotator muscles were normal. Pain

occurred frequently with passive abduction during extension. Plain radiographs of the left shoulder confirmed a calcification at the superior aspect of the glenoid fossa without any osteoarthritic changes (Figure 1A). Computed tomography (CT) scanning of the left shoulder showed a small calcified area at the posterosuperior glenoid rim (Figure 1B–E). Magnetic resonance imaging (MRI) revealed the presence of a T1 low-, T2 low- and short T1 inversion recovery (STIR) low-weighted signal intensity mass in the long head of the biceps at its origin (Figure 2A). Axial CT and MR STIR images demonstrated a tenosynovitis at the bicipital groove and a bone cyst at the posteroinferior aspect of the glenoid fossa, which was connected to the glenohumeral joint through the glenoid labrum (Figure 2B). Rotator cuff tears and subacromial bursitis were not observed on the MRI.

The patient was treated with rehabilitation and a nonsteroidal anti-inflammatory drug (NSAID) for

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Figure 1. (A) Plain radiograph of the left shoulder showing calcification in the superior glenoid fossa. Three-dimensional (B), axial (C), oblique coronal (D) and oblique sagittal (E) computed tomography views of the left shoulder showing calcification at the posterosuperior rim of the glenoid. The arrows indicate the calcium deposit.

Figure 2. (A) T2-weighted magnetic resonance imaging (MRI) oblique coronal view of the left shoulder. A calcium deposit was located at the superoposterior glenoid rim. The arrowhead indicates the calcification. (B) Axial MR short T1 inversion recovery image showing a tenosynovitis at the bicipital groove (arrowhead) and a cystic lesion at the posteroinferior glenoid rim connected with the glenohumeral joint (arrows).

1 month, although no remarkable change in symptoms was observed. Consequently, we administered an intra-articular injection of triamcinolone acetonide (40 mg) and 1% lidocaine (5 mL). A few days after the injection, the patient's pain relieved dramatically. One month later, his left shoulder pain completely resolved and he regained a full range of motion in the joint. His symptoms did not recur over the following 4 months. At the final visit, plain radiographs and CT of the left shoulder demonstrated complete resorption of the calcification (Figure 3).

Discussion

The present case demonstrated spontaneous resorption of a calcification in the long head of the biceps tendon.

Calcific tendinitis is generally regarded as a self-healing condition that undergoes spontaneous phagocytic resolution, and most patients can be treated conservatively. On survey of the literature, we could not find any evidence of spontaneous resorption of a calcium deposit in the long head of the biceps tendon. Indeed, recently reported three cases have been treated surgically.⁴⁻⁶

In these cases, conservative treatments including medication, local steroid injection or physical therapy for a few months were performed, although the symptoms failed to resolve completely. The patients underwent arthroscopic debridement of calcification in the long head of the biceps-labral complex in all cases and tenotomy or superior labral repair were added in two cases. These surgical interventions succeeded to relieve pain and to prevent the recurrence over 1 year.

Figure 3. Plain radiograph (A) and three-dimensional (B), axial (C), oblique coronal (D) and oblique sagittal (E) computed tomography views of the left shoulder showing the disappearance of the calcification.

In the present case, physical therapy and NSAID administration were not effective in pain reduction, although the intra-articular injection of triamcinolone acetonide (a synthetic corticosteroid) dramatically relieved the patient's shoulder pain. Thus, we kept the patient under observation during which the calcium deposit completely resorbed.

Calcific tendinitis of the rotator cuff often has acute symptoms including severe pain, tenderness, local edema and swelling, limited range of active and passive movements, and mild fever, which are partly caused by subacromial bursitis as a result of extrusion of the calcium deposit. The patient in the present case experienced increasing chronic pain for 6 months. The patients in the previously reported cases also had no acute symptoms.⁴⁻⁶ Thus, it appears that a calcific tendinitis at the long head of the biceps tendon presents as a chronic painful condition compared with that of the rotator cuff.

Although the exact aetiology of this condition is unclear, excessive loading of the tendons, endocrine disorders and ageing could cause tendon degeneration and calcium deposition.⁷ Ji et al. described the possible impact of microtraumatic stresses resulting from the repetitive overhead throwing motion on the biceps-labral complex attachment.⁴ Kim et al. also highlighted an association with a superior labrum anterior and posterior lesion.⁶ The patient in the present case did not participate in any specific sport activity, but had hyperlipidemia and a glenoid bone cyst on radiological evaluations. However, their correlation with these clinical and radiological findings is not yet been clarified because this is a single case.

Conclusions

We conclude that natural resorption (healing) can be expected in this disorder even if the tendon is located

inside the articular joint. Conservative treatment remains the mainstay of this condition and arthroscopic debridement would be considered only when the symptoms were not controlled by non-operative therapy.

Declaration of conflicting interest

None declared.

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