

Spontaneous Disappearance of an Acromioclavicular Joint Cyst: A Case Report

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Rotator cuff injuries are common. In most cases, the first symptom is shoulder pain, spinatus muscle atrophy, or inability to elevate or rotate the arm (or loss of strength in either action). An acromioclavicular (AC) joint cyst is a rare first symptom of a full-thickness rotator cuff tear.¹⁻⁹ This cyst can be observed as a variable-in-size swelling, above the AC joint, that is caused by synovial fluid.^{1,2,6,8-12} In this report, we describe a case of an AC joint cyst on the right shoulder. The patient provided written informed consent for print and electronic publication of this case report.

CASE REPORT

A 58-year-old man presented with a swelling on the right shoulder and pain during arm elevation. These problems had started 4 months earlier, after he had spent some time gardening. Between then and now, the shoulder pain had diminished, but the swelling remained. Mainly because the patient was worried about the

swelling, he was directed to our outpatient department.

Physical examination revealed a 3.5-cm soft-tissue mass above the AC joint (Figure 1). There was atrophy of the supraspinatus muscle. Glenohumeral (GH) hydrops was not evident. The patient had full active range of motion. Result of impingement tests were positive and there were no clear signs of

cuff weakness when compared with the contralateral side.

Radiography results showed degenerative changes in the AC joint with a spur under the acromion and calcium deposits in the rotator cuff. In addition, there was superior migration of the humeral head (Figure 2). Magnetic resonance imaging (MRI) of the shoulder showed signs of a retracted full-thickness supraspinatus tear and a cyst above the AC joint. There were also degenerative changes in the AC joint and the labrum and a 2-cm length tear of the long head of the biceps. There was clear communication between the AC joint and the GH joint (Figure 3).

As the shoulder symptoms were mild and the swelling on the shoulder diminished in size, we decided on a wait-and-see approach. Two months after the first presentation, the symptoms were still minor, and the swelling had completely disappeared.

DISCUSSION

Our patient's case illustrates how an AC joint cyst can result from a full-thickness rotator cuff tear. Craig,¹ in 1984, was the first to describe an AC joint cyst in association with the geyser sign. The geyser sign occurs when, during arthrography, contrast flows from the GH joint into the cyst. More recently, the geyser sign and the relationship of the rotator

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cuff tear to the AC joint and the cyst above the AC joint have been observed with MRI.^{5,13}

The literature includes a few reports of isolated AC joint cysts without proven underlying disease.¹⁴⁻¹⁷ According to Hiller and colleagues' case presentations and literature review published in 2010, forty-one cases of AC joint cysts in total have been reported.¹⁷ In most cases, the cysts were associated with an underlying rotator cuff tear.^{1-10,12,13}

One explanation for why the cysts formed in these cases is that they resulted from degenerative changes in the AC joint. These changes can

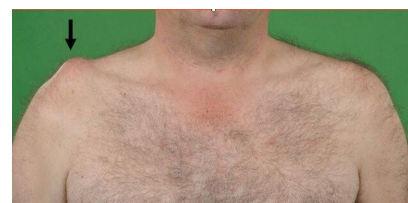


Figure 1. Anterior view of thorax with acromioclavicular cyst on right (arrow).

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Figure 2. Plain radiograph of right shoulder shows spur under acromion, degenerative changes to acromioclavicular joint, small calcium deposit in rotator cuff, and superior migration of humeral head.

cause spurs under the acromion and deterioration of the inferior capsule of the AC joint. Chronic friction between the rotator cuff and the spurs can cause a rotator cuff tear. Consequently, there is communication between the GH joint and the AC joint. Synovial fluid, which leaks into the AC joint, can cause a cyst above the AC joint.^{1,2,6,8-10} Another explanation is that a rotator cuff tear causes cranial migration of the humeral head, and the migration damages the inferior capsule of the AC joint and then pushes synovial fluid into the AC joint, thereby causing the cyst to form.^{11,12,17} When the fluid enters the AC joint, the deteriorated capsule can act as a valve sustaining the cyst.^{13,16}

The differential diagnosis for AC joint cyst should consist of hematoma, synovial cyst, AC joint ganglion, juxta-articular cyst, lipoma, and any other tumor.^{8,9,14,15}

A cyst caused by a rotator cuff tear is managed by eliminating the underlying problem, as there is a high rate of recurrence associated with only aspirating or removing the cyst.^{2-4,9,13,15} Therefore, surgery should be focused on a distal clavicular resection in combination with a cuff repair.^{4,9} Because the cuff tear is degenerative, however, there often is retraction of the supraspinatus muscle, which makes it dif-

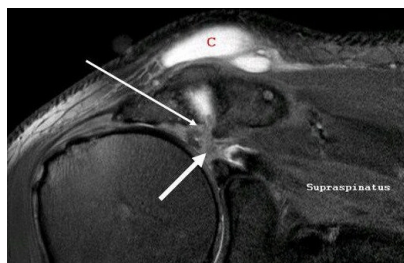


Figure 3. Magnetic resonance imaging shows acromioclavicular joint cyst, retracted full-thickness tear of supraspinatus muscle (thick arrow), and communication between glenohumeral joint and acromioclavicular joint (thin arrow).

ficult or sometimes impossible to perform a repair that yields good results. In these cases, distal clavicular resection alone can prevent recurrence of a new cyst by removing the degenerative AC joint.^{2,3,5,9} In one study, patients with an AC joint cyst, in combination with degenerative osteoarthritis of the GH joint, underwent shoulder hemiarthroplasty. In all cases, they were pain free during the follow-up period, and no cysts recurred.¹⁸ Most reported cases have been treated with an open procedure, but an arthroscopic repair has been described.⁴

In our patient's case, superior migration of the humeral head was a sign of rotator cuff tear. Confirmation came with MRI, which showed a full-thickness supraspinatus tear retracted under the AC joint. Given the diminishing symptoms and spontaneous disappearance of the swelling on follow-up, we opted for conservative treatment.

When a patient presents with an AC joint cyst, the treating physician should consider the possibility of an underlying rotator cuff tear. MRI is recommended for examination of cuff quality and the relationship between the GH joint and the AC joint. A wait-and-see policy can be an option for any patient with an AC joint cyst. Should this treatment fail, a distal clavicular resection, if possible in combination with a cuff repair, can be performed with good results.

Whether to perform rotator cuff repair should depend on the vitality of the patient and the quality of the cuff. In the older or asymptomatic patient, a wait-and-see policy can be the best treatment for an AC joint cyst. The result can be spontaneous disappearance of the cyst.

AUTHORS' DISCLOSURE STATEMENT

The authors report no actual or potential conflict of interest in relation to this article.

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