

The Viability of Arthroscopic Removal as a Treatment for Calcific Deposit

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In some cases, calcific tendinitis does not respond to non-surgical treatment. In particular, calcific tendinitis during the chronic formative phase is refractory to conservative treatment. Compared with open removal of calcific deposit, arthroscopic treatment has many advantages, including shorter recovery time, better functional results, and better cosmesis. In the paper, 'Clinical Outcomes of Arthroscopic Treatment of Calcific Tendinitis of the Shoulder' by Kang et al.,¹⁾ arthroscopic removal of calcific deposit showed significant pain relief and improved functional outcomes. Kang et al.¹⁾ analyzed the clinical outcomes and pre-operative magnetic resonance imaging (MRI) of 39 shoulders in 38 patients, who underwent arthroscopic decompression of calcific deposit. They measured the mean size of calcific deposit and divided these patients into two groups, depending the mean size value of 77.0 mm² in calcific tendinitis. They concluded no clinical correlation between the location and size of the calcific deposits in the specific area of the rotator cuff tendons. Moreover, there was no clinical correlation in accordance with the remnant calcium and additional rotator cuff repair. These results suggest that the size, location, remnant of the calcific deposit, and additional rotator cuff repair of the calcific tendinitis did not have any harmful effect on the final clinical outcomes. These findings were very useful to the surgeons who needed to explain the final outcomes to patients. Moreover, detailed explanation of the surgical procedures would be helpful to the clinician.

Calcific tendinitis is one of the most common causes of non-traumatic pain in the shoulder.²⁾ This affects predominantly the 40- to 60-year-old age group, and women are more commonly affected than men.³⁾ Calcific deposits are often located 1 to 2 cm from the insertion of the supraspinatus tendon on the greater tuberosity. Its content was calcium hydroxyapatite crystal. Radiologically, we can easily find these calcific deposits in calcific tendinitis. These radiologic calcific deposit have

been reported in 2.7% to 20% of asymptomatic adult patients.⁴⁾ Uthhoff and Sarkar⁵⁾ reported an incidence rate of 7.5% in 200 asymptomatic patients and 6.5% in 925 symptomatic patients. In the outpatient clinic, we preferred a conservative treatment and it has been very effective. These disease entities are not rare. These patients usually complain of symptoms similar to those of impingement syndrome with tenderness of the greater tuberosity. Its symptoms can range from an incidental finding without symptoms to severe functional impairment with acute, disabling pain. The gold standard treatment for calcific tendinitis is conservative treatment. About 90% of patients can be treated non-operatively. Kang et al.¹⁾ simply asserted that the surgical indication was the lack of response from the conservative treatment. The authors need more detailed description (the duration of conservative treatment, acute or chronic onset, treatment methods, etc.) of the inclusion criteria of the surgical treatment. These conservative treatments include activity modification, rest, local heat or cold application, non-steroidal anti-inflammatory medications, gentle physical exercises, ultrasound, extracorporeal shock wave therapy, needle lavage, and administration of subacromial corticosteroid injection. However, some calcific tendinitis are resistant to daily living activity owing to severe pain and attack history. In these rare cases, surgical treatment should be concerned. In this paper, Kang et al.¹⁾ did not mention the exact inclusion criteria of the surgical treatment (arthroscopic decompression) of calcific tendinitis.

In 1902, the first operative removal of calcific deposit was performed by Harrington and Codmann.⁶⁾ Recently, arthroscopic debridement of calcific deposit and rotator cuff repair yielded excellent functional results and high patient satisfaction.⁷⁾ Ark et al.⁷⁾ also reported good clinical outcomes in their series.

To the best of our knowledge, an article regarding the specific location of calcific deposit around the supraspinatus tendon (an-

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terior, middle, and posterior supraspinatus) has not been available to date. Most authors reported the most common deposit site: The supraspinatus tendon. In this paper, Kang et al.¹⁾ reported that the middle supraspinatus tendon area was the most common site of calcific tendinitis. The authors concluded no clinical correlation in accordance with the remnant calcium and additional rotator cuff repair. Moreover, they suggested that the physicians do not need to worry about postoperative stiffness when performing rotator cuff repair with calcific deposit removal in the final follow-up. However, these cases were too small (only 6 cases) to have significant meaning. In our practice, some patients with additional rotator cuff repair showed greater delay in rehabilitation, especially the visual analogue scale score and range of motion, rather than patients with simple decompression of the calcific tendinitis. A greater number of patients and a longer follow-up study, including range of motion improvement and clinical scores, will be needed during the treatment of calcific tendinitis. Furthermore, we often find combined lesions in the treatment of the chronic calcific tendinitis. Sometimes, we can find the combined rotator cuff tears or biceps pathologies in these patients. Because many patients with chronic calcific tendinitis were included in the middle aged or older aged groups, we could find combined lesions in these aged group. According to a previous arthrographic study,⁸⁾ a rotator cuff tear may coexist in approximately 25% of patients presenting with calcific tendinitis. Calcific tendinitis usually peaks in the fifth decade, whereas rotator cuff tendon tear continues to increase with age.⁹⁾ These two disease entities showed different disease characters, and these concerns led to an investigation of the true incidence of combined rotator cuff tears and calcific tendinitis, with consideration of the approach to the conservative or surgical treatment in symptomatic calcific tendinitis.

An MRI is a useful tool for the diagnosis of rotator cuff tears or combined lesions in calcific tendinitis. However, although there has been marked improvement in MRI technology recently, rotator cuff tear combined with calcific tendinitis in the adjacent location, especially supraspinatus tendon, is difficult to diagnose, owing particularly to the artifact of calcific materials.

These results about the clinical correlations between specific location and size of the calcific deposit, remnant calcium, and additional rotator cuff repair (even though the small patients) will be helpful to practicing clinicians. However, it is so difficult to objectify criteria of these conclusion due to the small sample size. More prospective analyses of with a greater number of patients and several contributing factors—including age, size and location, onset (acute vs. chronic), duration, remnants of the calcific deposit, combined lesions, and additional cuff repair—might be helpful in better understanding calcific tendinitis.

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