Peculiar Phenomenon in a Case of Calcific Tendinitis of the Shoulder

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Introduction

Calcium deposits around the shoulder can be an incidental radiographic finding or this may play a role in calcific tendinitis, causing agonizing pain [1]. Since the first radiographic description of calcific tendinitis in 1907 by Painter [2], many authors have described the condition as a common cause of shoulder pain. Little histologic or pathophysiologic research has been done on calcific tendinitis and there is no consensus about its cause. Onset of calcific tendinitis may be acute or subacute. Rarely, a patient with persistent subacute calcific tendinitis develops symptoms of adhesive capsulitis [1]. The main differential diagnosis of calcific tendinitis are impingement syndrome and adhesive capsulitis.

Case Report

A 50 year old, thinly built patient reported with complaints of pain and severe restriction of movements in her right shoulder for the last 4-5 months. Initially pain used to be constant. However, over a period of time the pain subsided gradually and presently she had pain mainly during movements only. The gradual loss of movements was in all directions and had now reached a stage where it was interfering with her daily routine work. Physical examination revealed marked limitation of active and passive range of shoulder motion. Motion was affected in all planes and was equally limited for both active and passive movements in any one plane. There was mild tenderness over the greater tuberosity of the humeral head. Anteroposterior radiograph of the shoulder showed calcification in the supraspinatus tendon (Fig.1).

Needling i.e. making multiple passes with a hypodermic needle in an attempt to breakup the calcium deposit, followed by injection of a combination of a local anaesthetic and a corticosteroid into the subacromial space was done. Shoulder was mobilised to the degree permissible by pain after the injection was given and the patient was advised to do some ROM exercises for the shoulder.

Patient reported for review after about 3 weeks. Repeat

radiograph showed significant reduction in the calcium deposit. There was some improvement in the passive ROM though there was no change in the active ROM. Second subacromial injection of a combination of a local anaesthetic and a corticosteroid was repeated. Shoulder was again mobilised within the permissible limits. Patient had not been doing the exercises at home and was hence motivated to do the same at home. Though the patient was recalled for review after 3 weeks, she reported after about 6 weeks. Repeat radiograph at this time showed only a small spicule of calcium deposit (Fig.2). The passive ROM showed remarkable improvement, however there was no significant improvement in active ROM. Patient was neither willing for admission to the hospital nor was able to come to the hospital daily for physiotherapy as she belonged to a remote area and had to walk a few hours to reach the nearest road head. Patient was again motivated to do the exercises at home.

However, when the patient reported for her next review after about three weeks, radiograph surprisingly showed almost the same amount of calcium deposit as seen in Fig.1 (Fig.3). More out of frustration, rather than out of any medical

Fig. 1 : Antero-posterior radiograph of the right shoulder, taken at the time of the first visit of the patient to the hospital, showing calcium deposits in the supraspinatus tendon

Fig. 2 : Antero-posterior radiograph of the right shoulder showing the small spicule of calcium deposit left after needling and two injections of a combination of local anesthetics and corticosteroid were given in the subacromial space

logic, shoulder was mobilised in all directions to the limits permissible by pain. A grating sensation was felt in the shoulder. Just to see as to whether this mobilisation, which was associated with a grating sensation, had any effect on the calcium deposit, shoulder radiograph was repeated after the mobilisation of the shoulder. Surprisingly the calcium deposit had reduced drastically. Encouraged by this the shoulder was mobilised further for some more time and a third radiograph was repeated within the span of one hour. The calcium deposit had reduced to the same size as seen in Fig.2 (Fig.4).

This time patient could be convinced for getting admitted to the hospital. She was put on NSAIDs and ice pack to be given 2 hourly, to take care of the inflammation that would have been initiated by the mobilisation of the shoulder. From second day onwards, patient was started on physiotherapy with the aim of increasing shoulder muscle strength. Patient stayed in the hospital for about three weeks. Physiotherapy was continued during the period of hospitalization. Remarkable improvement in active ROM was seen compared to earlier occasions. Patient was discharged from the hospital on her request but was given some devices made from surgical tubing to continue the ROM and the strengthening exercises at home. Patient reported for review at 3-4 week interval. Over a period of 6-8 weeks, active ROM had increased to the level where abduction was almost full and patient was able to carry out her routine household jobs with ease. At the time of last review, almost three months after her discharge from the hospital, the calcium deposit had persisted at the same size as in Fig.2.

Discussion

Calcium deposits around the shoulder most commonly develop in the supraspinatus tendon. Acute calcific tendinitis is usually signalled by the rapid onset of pain that is unrelated to shoulder position or activity. However, subacute calcific tendinitis can have a gradual onset with low grade pain. The condition typically occurs in persons

Fig. 3 : Antero-posterior radiograph of the right shoulder taken during the fourth visit of the patient, showing the reappearance of the calcium deposit at the same site

Fig. 4 : Antero-posterior radiograph of the right shoulder showing the peculiar phenomenon of disappearance of calcium deposit seen in Fig. 3, after the right shoulder was put through mobilisation.

between the ages of 30 and 50. Since the patient was seen for the first time at a late stage in the disease, and also due to mainly the language barrier, a good history could not be taken, it can not be said for sure as to whether it was primarily a case of persistent subacute calcific tendinitis with symptoms of adhesive capsulitis developing subsequently or whether it was a case of primary adhesive capsulitis with calcium deposits as an incidental radiographic finding. However, since corticosteroid injection is indicated in both the conditions [1,3], needling along with the injection of a combination of local anaesthetics and corticosteroid into the subacromial space was done. Though, injection in case of adhesive capsulitis is generally given intra-articular, one study [4] showed equivalent results using subacromial injections. The dosing schedule varies from single injection to one injection weekly for six weeks to one injection every six weeks for up to three injections [5].

Though patient showed remarkable improvement, the phenomenon of calcium deposits reappearing and then disappearing after mobilisation of the shoulder, was perplexing. The idea of presenting this case is to report this unusual phenomenon and to try and seek any explanation for this and to find out as to whether any such cases have been reported earlier in literature.

References

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