CASE REPORT

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Synovial osteochondromatosis in bilateral subacromial bursae

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Abstract We report a rare case of synovial osteochondromatosis in bilateral subacromial bursae. A 73-year-old man presented with sudden shoulder pain. Roentgenograms showed a large number of calcifications between the acromial processes, and a greater tuberosity on both sides. Surgery was performed to remove loose bodies from both sides. There were 11 in the right subacromial bursa, and 9 in the left. According to Milgram's staging system, this case was diagnosed as stage III. A follow-up examination 10 months after the operation found no recurrence, pain, or limitation of the range of motion on either side.

Key words Bilateral · Subacromial bursa (SAB) · Synovial osteochondromatosis

Introduction

Synovial osteochondromatosis can occur within synovial joints, tendon sheaths, and extraarticular bursal cavities, an occurrence in a bursa, especially the subacromial bursa (SAB), has rarely been reported. Among the cases of synovial osteochondromatosis in the SAB, only one case has been reported as bilateral. Here, we report on a second bilateral case, which differs from the first in that no subacromial spur formation was evident. We consider that many contributing factors may exist in both SABs, especially in synovial tissue, although the pathogenesis of bilateral synovial osteochondromatosis has not yet been elucidated.

Case report

A 73-year-old man (who was right-handed) experienced sudden pain in his right shoulder in December 2001. He had received a contusion injury to his right shoulder in a traffic accident at age 27, but had felt no pain at the time. He had played baseball as a pitcher from age 13 to 30, and was engaged in carrying cargo as his occupation until he was 65 years old. There was nothing exceptional about either his medical or his family history. At our initial physical examination, a slight swelling and tenderness were present in the right acromioclavicular joint and greater tuberosity, although no local heat was noted. While his range of motion (ROM) was limited, with flexion of 80° and abduction of 80° in the right shoulder joint, no pain or limitation of ROM were present on the left side. Neurological and laboratory examinations were normal. After injection of a local anesthetic into the SAB, the locking was released, and both the pain and the ROM limitation disappeared. Roentgenograms showed a large number of calcifications, approximately 1cm in diameter, between the acromial processes, and a greater tuberosity on both sides, but no subacromial spur formation was seen (Fig. 1). Arthograms showed no leakage from the glenohumeral joint to the SAB in either shoulder. Magnetic resonance (MR) images showed some multiple nodules in both SABs, but no rotator cuff tear was observed (Fig. 2).

Surgery was performed in March 2001 to remove loose bodies on both sides using a deltopectoral approach. This was requested by the patient in order to avoid potential recurrence, although the pain and ROM limitation had disappeared (Fig. 3). During the procedure, bursal-side tears of the supraspinatus tendon were found on both sides, but they were slight, and rotator cuff repairs were not necessary. There were 11 loose bodies in the right SAB and 9 in the left, of which were more some than 10mm in diameter (Fig. 4). An incision was made in the joint capsule, but no loose bodies were present. The surfaces of all the loose bodies were smooth, except for one from the left side that was covered with synovial tissue. A histopathological
Fig. 1. Roentgenograms of both shoulders (a right; b left) showing a large number of calcifications between the acromial processes and a greater tuberosity on both sides. No subacromial spur formation can be seen.

Fig. 2. Magnetic resonance (MR) images of both shoulders (a right; b left) showing some multiple nodules in both subacromial bursae. No rotator cuff tear can be observed.

Fig. 3. Operative findings of both shoulders (a right; b left). Loose bodies were found in both subacromial bursae.

Fig. 4. Loose bodies. a Eleven from the right. b Nine from the left.