

## CASE REPORT

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**Synovial chondromatosis of the subcoracoid bursa**

Accepted: 26 September 1999

**Abstract** Synovial chondromatosis, is the chondroid metaplasia of the synovial membrane. Large joints such as the knee and hip are most commonly involved. Extra-articular involvement is rarely described. Synovial chondromatosis may be associated with impingement syndrome of the shoulder. We report a case of synovial chondromatosis of the subcoracoid bursa, which resulted in impingement symptoms.

**Résumé** La chondromatose synoviale est une métaplasie de la membrane synoviale. Elle atteint généralement les articulations de la hanche et du genou. Son développement dans les bourses séreuses est très rare. Nous présentons un cas de ce type avec étude de la littérature.

**Introduction**

Synovial membrane metaplasia associated with synovial chondromatosis (SC) results in a pathologic production of chondroid material. The most frequent clinical presentation is monoarticular and intraarticular involvement, generally of the knee joint [3].

The primary SC should be distinguished from the secondary accumulation of chondroid in the synovial membrane caused by degenerative joint disease or intraarticular loose bodies [6]. Extraarticular SC localized to a tenosynovial sheath or bursa is seldom encountered. Involvement in sites other than the hands and the feet are extremely rare [5]. In this study a patient with subcoracoid synovial chondromatosis is presented.

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**Case report**

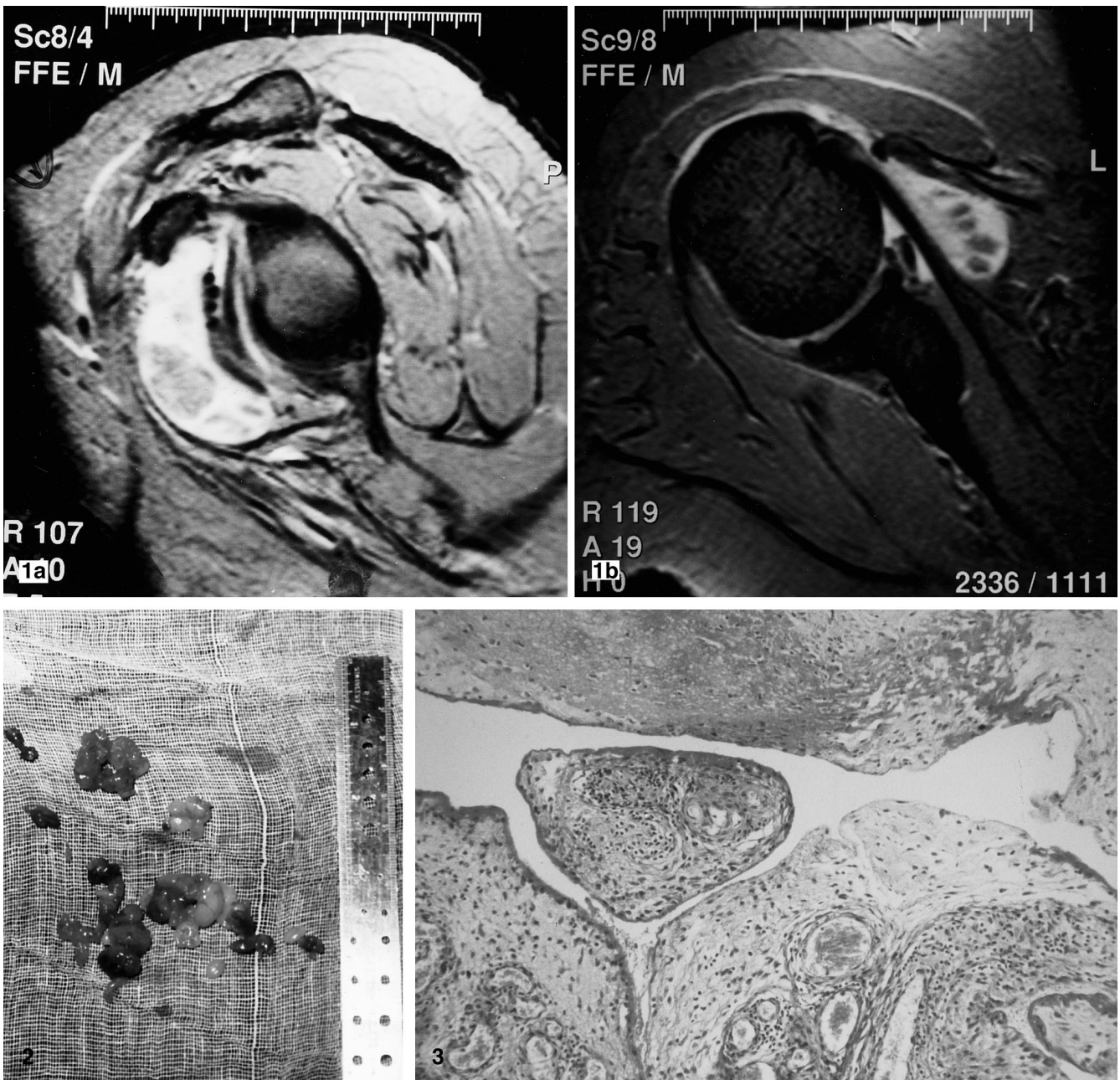
A 47-year-old female patient was admitted to our clinic with progressive pain in the shoulder over 6 months. Initially, she presented with anterior shoulder and subacromial pain radiating to the arm. The pain was present at rest and during sleep, and was aggravated on movement. The active range of motion was 120° of forward flexion, 30° of external rotation; and by internal rotation she was able to reach the level of fifth lumbar vertebra. The results for impingement signs and supraspinatus tests were positive. There were no pathologic findings on X-ray. Magnetic resonance imaging (MRI) displayed multiple lesions in the subcoracoid bursa with a mean diameter of 10 mm suggestive of synovial chondromatosis (Fig. 1a,b).

The patient was hospitalized for an excision biopsy. The subacromial space was opened through an anterolateral approach, detaching the anterior portion of the deltoid muscle subperiosteally. The coracoacromial ligament was incised. The subacromial bursa was removed. Twenty loose bodies with a diameter of 10–15 mm and a chondroid appearance were extirpated from the subcoracoid bursa (Fig. 2). During the operative procedure a total excision of the subcoracoid bursa and a subsequent acromioplasty was performed. Histopathologic evaluation revealed synovial hypertrophy showing chondroid metaplasia (synovial chondromatosis) (Fig. 3). After 1-year follow-up the patient had no complaints and a full active range of motion. No recurrence was observed on MRI.

**Discussion**

Synovial chondromatosis localized to the shoulder joint is rarely reported in the literature. Only one single case out of 9 patients in Gasbarrini's series [2] was localized to the subcoracoid bursa. About two thirds of cases with synovial chondromatosis have a typical radiological popcorn appearance. In some cases a cortical erosion of the bone occurs due to expansion of the mass. In cases where the nodules are uncalcified and therefore radiologically invisible, MRI is the diagnostic method of choice [2]. Differential diagnosis of synovial chondromatosis in the shoulder joint includes calcified tendinitis, synovial sarcoma and periosteal chondroma [2,5].

A common assumption is, that all lesions of synovial chondromatosis arising from tendon sheaths, joint cavities and bursae represent one single pathology [4]. Histo-



**Fig. 1** MRI view of the nodules

**Fig. 2** Macroscopic view of the lesion

**Fig. 3** Synovia with chondroid metaplasia seen in the histopathology specimen

pathologically, synovial chondromatosis represents a chondroid metaplasia of the cellular and superficial synovial layer. Nodules, increasing in size may become loose and become calcified. This histopathologic appearance characterized by high cellularity index, big nuclei and cellular polymorphism can be confused with a chondrosarcoma.

The impingement syndrome of the shoulder, is caused by obliteration of the rotator cuff beneath the acromion,

the acromioclavicular joint or the coracoid process. Sub-coracoid synovial chondromatosis as a causative factor in subacromial impingement syndrome has previously been reported in the literature as a single case [2]. The same syndrome generated by synovial chondromatosis in the subacromial bursa has been reported in three cases [1].

The treatment of choice is surgical removal of the loose bodies followed by a partial synovectomy. Nevertheless, in patients with extraarticular bursal pathologies; the preferred surgical treatment is complete excision of the involved bursa [1,2,5].

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