ABSTRACT

A 34-year-old male patient presented severe pain in his left knee in association with functional incapacitation, with no apparent triggering factor. He sought medical attention in December 2006, at which time he was prescribed NSAIDs. After a year, he reported increased swelling and pain at the site. He was referred to a knee specialist with a suspected meniscal injury. Upon examination, severe swelling of the joint, with movement limitation, severe pain and negative joint aspiration, was found. Since the simple radiographic results were normal, an MRI of the knee was requested. The MRI revealed a large accumulation of fluid inside the joint, together with marked synovial proliferation, especially focal thickening in clumps with an intermediate signal in T1 and T2, and a discrete hyposignal in T2 that was suggestive of pigmented villonodular synovitis with intact meniscus and ligaments. The patient underwent arthroscopy on the left knee, which revealed whitish irregular fragments, and then underwent arthrotomy with removal of the lesion and extensive synovectomy. The material was sent for anatomopathological examination, which showed the presence of synovial chondromatosis. Eight months after the surgery, the patient does not have any complaints, with a range of motion of 130° in the left knee without joint effusion or signs of inflammation. Synovial chondromatosis is a rare benign type of metaplasia of the synovial membrane that leads to the formation of cartilaginous free bodies in the joint space. It is difficult to diagnose because 95% of the nodules, when not calcified, can be overlooked radiologically.

Keywords - Knee; Metaplasia; Chondromatosis

INTRODUCTION

Synovial chondromatosis is a rare disorder of unknown etiology and is characterized by the presence of multiple cartilaginous nodules within the connective tissue of joint membranes, sheaths and bursas. The joint most affected is the knee, followed by the hip, shoulder and hand joints, with predominance in a single joint (1,2). This lesion appears most commonly in males and in individuals between their third and fifth decades of life (3,4). Synovial chondromatosis is diagnosed after obtaining a detailed history and carrying out a physical examination and a radiological examination. However, the definitive diagnosis is reached after histological examination of the synovial tissue. The treatment of choice for symptomatic patients is surgical (5). It is considered that the presence of multiple intra-articular free bodies, independent of whether caused by degeneration, neuropathy, osteochondritis dissecans or other condition, is already enough to characterize this disorder. At a later stage, synovial chondroid metaplasia may be presented (6).
CASE REPORT

The patient was a 34-year-old man who came to the knee outpatient clinic of São José University Hospital with a history of severe pain in his left knee that was associated with functional incapacity, block and movement limitation, without any apparent triggering factor. Upon examination, severe edema was found in the joint, with movement limitation, severe pain and negative joint puncture. From a routine radiological evaluation of the knee in AP view, no abnormalities were seen. The patient then underwent a magnetic resonance examination, which showed a large accumulation of fluid inside the joint, associated with marked synovial proliferation, especially focal thickening in clumps with an intermediate signal in T1 and T2, and a discrete hyposignal in T2 that was suggestive of pigmented villonodular synovitis with intact meniscus and ligaments (Figures 1 and 2). The patient underwent arthroscopy on the left knee, which revealed numerous whitish irregular fragments, and then underwent arthrotomy on the left knee, with removal of the lesion and partial synovectomy (Figure 3). The material was sent for anatomopathological examination, which showed the presence of synovial chondromatosis. Eight months after the surgery, the patient is in a good general condition, without complaints, with a range of motion of 130° in the left knee without joint effusion or signs of inflammation.

DISCUSSION

Synovial chondromatosis is a rare benign type of metaplasia of the synovial membrane that leads to the formation of cartilaginous free bodies in the joint space, without signs of malignant transformation(7), or any direct relationship with trauma or inflammatory processes. The nodules may be pedunculated and released into the joint space, where they may remain as free bodies and increase in size. Their origin may be primary or secondary. The clinical manifestations are pain, inflammation and single-joint functional limitation. The joints most affected are the knees (50%), hips and ankles. Conventional radiology is very characteristic if the free bodies are calcified (osteocondromatosis), but are difficult to interpret when they are radiotransparent (chondromatosis). T2-weighted magnetic resonance shows heterogeneous synovial hyperplasia and ring-shaped images with a center showing greater intensity. On arthroscopy, marked thickening of the tissues that make up the joint

Figure 1 – Magnetic resonance imaging.

Figure 2 – Magnetic resonance imaging.
cavity are seen, accompanied by numerous small and irregular cartilaginous nodules. The differential diagnosis should be done with synovial chondrosarcoma and secondary chondrometaplasia, which occurs when small fragments of bone or joint cartilage detach and remain in the joint space following trauma or degenerative diseases. In our case, age, location and the single-joint characteristic coincided with the literature. We believe that the proposed treatment was appropriate, since extensive synovectomy presents a greater likelihood of functional limitation. We did not think that it was necessary to use radiotherapy, because only one case of metastasis in a patient with synovial chondromatosis has been reported in the literature\(^8\).

**REFERENCES**