

Crystall deposition arthritis of the knee complicated by a lipoma arborescens. A case report

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ABSTRACT

A case of a knee lipoma arborescens in a 60 yrs. old male is presented. The patient complained for persistent knee pain and denied any history of trauma. He has had an MRI where a medial meniscal tear was found and after a knee arthroscopy the diagnosis of crystal deposition arthritis was established. The symptoms did not subside and then he had another arthroscopy, where a large fatty mass in the suprapatellar area was found and excised. Pathology report established the diagnosis of a lipoma arborescens.

KEYWORDS: Lipoma arborescens; knee; arthroscopy

Case report

A 60 yrs-old male patient presented in outpatients clinic complaining of left knee pain. He referred that the pain was occasionally bothering him during sleep and that he had also experienced locking of the knee in some occasions. He denied any significant history of injury. Initially, he visited an Orthopaedic surgeon who advocated a knee MRI, where a medial meniscal tear and a synovial inflammation were found.

The patient underwent a knee arthroscopy and according to the operating report a large crystalline deposit underneath the lateral meniscus was found which was then washed out. A month after the operation the patient had no improvement of the symptoms. On examination the knee was stable, having a 10° degrees lag of extension and 20° of flexion, no pain on palpation, but there was some swelling

around the suprapatellar area. Ultrasound revealed a well-defined soft tissue in the suprapatellar pouch (**fig. 1**). FBC and ESR were within the normal limits, but CRP was slightly elevated (value of 3 with the normal range 0-0.7)

A second arthroscopy was scheduled. During the arthroscopy, several areas of crystallin deposition were found all around the knee (**fig.2**). In the suprapatellar pouch a large mass of fat tissue was found with a tree-like folds within it (**fig.3**). Biopsy of that tissue was sent for histology and then the whole area was shaved using a 4.5 mm arthroscopic shaver. A thorough irrigation of the joint was then performed at the end of the procedure. The patient was mobilized the next postoperative day with partial to full weight bearing as tolerated and discharged from the hospital.

Histological report referred to a macroscopically

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Fig. 1: Longitudinal view of the suprapatellar pouch (linear probe 12 MHz) where a soft tissue mass has been labeled by arrows.



Fig. 2: Crystal deposition on the medial meniscus (2a) and in the synovium (2b)



Fig. 3: The lipomatous mass found in the suprapatellar area

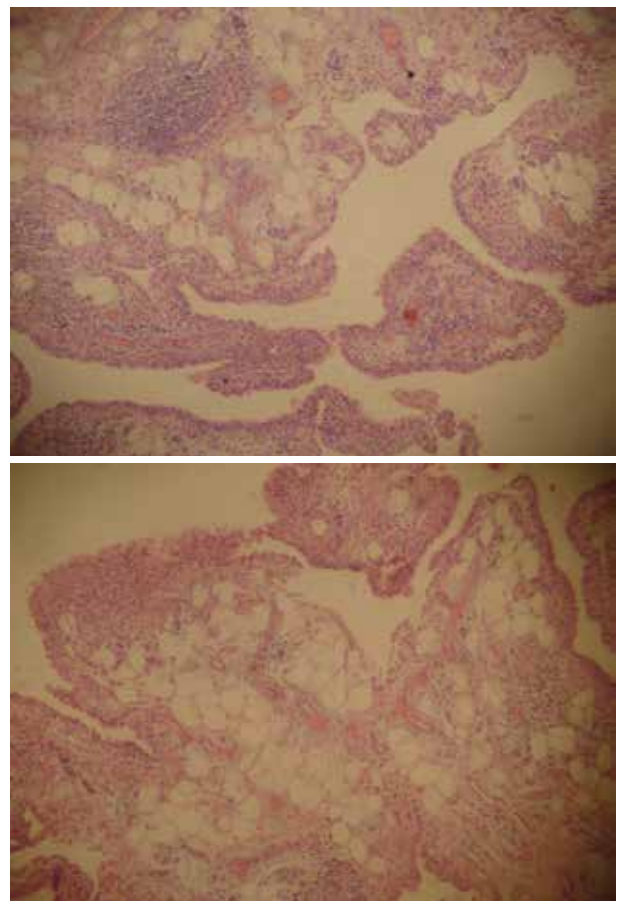


Fig. 4: H - E x20. **4(a)** Synovial lipoma. Focal lymphocytic aggregation among mature adipocytes. **4(b)** Synovial lipoma. Hypertrophied villi structures lined by synovial epithelium. The core of the villi and the subepithelial area is diffusely infiltrated by mature adipocytes.

yellowish synovium thickened with villous proliferation. Microscopically there were hypertrophied villi structures lined by synovial epithelium. The core of most villi and the subepithelial area were diffusely infiltrated by mature adipocytes (fig. 4a). Among the adipocytes there were lymphoid aggregates (fig. 4b).

At one month follow up, the patient reported remarkable improvement regarding the knee pain and discomfort and he gained nearly all ROM, whereas FBC, ESR and CRP were within the normal limits.

Discussion

Lipoma arborescens is named after the term lipoma because of lipomatous proliferation of the synovium and arborescens from the Latin word "arbor" meaning the tree because of the tree like shape of the synovial proliferation. Hallel et al. introduced the term lipomatous proliferation of the synovial membrane as a medically appropriate term in order to distinguish it from the true lipoma which is basically a tumor [1].


Lipoma arborescens mainly affects the knee joint and suprapatellar pouch, but it can also be found in several joints or rarely outside the joints like in subacromial subdeltoid bursa and around the peroneal tendons. [2-4] Normally it is a non-symptomatic condition but occasionally it can give recurrent symptoms of joint pain, discomfort and limited range of motion

mainly due to effusion. It can rarely cause joint locking. These symptoms can slowly progress in terms of frequency and intensity. [2]

The mononuclear cell infiltration found microscopically led several authors to the hypothesis that the cause of the disease was a reaction to a chronic inflammation. In fact, it could be complicated with early osteoarthritis, but according to the present literature it cannot be the cause of osteoarthritis. It can be found in rheumatoid arthritis, psoriasis or psoriatic arthritis, uveitis, and juvenile spondyloarthropathy.

In the present case the crystal deposition arthritis was probably the cause of joint inflammation. Though it is difficult to distinguish whether the patient's symptoms were due to either the crystal deposition arthritis or the presence of lipoma arborescens, the remarkable improvement of the patient's symptoms after the second arthroscopy is a clear indication of their cause.

In symptomatic non-responding to conservative treatment cases, surgical excision is the treatment of choice.

In conclusion, even if lipoma arborescens is a benign and non-symptomatic condition, we should always keep it in the back of our head as the cause of non-explainable symptomatic swollen joint or tendon. 

Conflict of interest:

The authors declared no conflicts of interest.

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