

Lipoma Arborescens: A rare case report

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ABSTRACT

Introduction: Lipoma arborescens is a rare condition of unknown cause. It is characterized by proliferation of the synovium with replacement of the sub synovial tissue by mature fat cells. The knee joint is the most commonly affected. Involvement of other joints has been announced such as elbow and shoulder. **Case presentation:** We are describing a case of 49-years old female diabetic patient who came to the rheumatology clinic of King Khalid Hospital in Al-Kharj with a two-year history rheumatoid arthritis and treated with methotrexate. In addition, she had a right knee arthroscopy and synovectomy for “pigmented villonodular synovitis”. Thereafter, the patient came in the outpatient clinic with a swollen knee. At examination, she has arthritis of the ankles and the wrists and a swollen right knee. Laboratory investigations show elevated inflammatory markers and normal liver and renal panels. An MRI of the right knee was ordered. **Discussion and conclusion:** In this case; we focus attention on is an extremely uncommon condition; lipoma arborescens. The clinical findings and imaging are characteristics by highlighting the role of MRI, in diagnosis of other, intra-articular pathological masses. The treatment of choice in lipoma arborescens is open synovectomy.

Keywords: knee joint; lipoma; magnetic resonance imaging, tumor, synovium

1. INTRODUCTION

The expression ‘arborescens’ came from the Latin word arbor which meaning tree; this word explaining the feature tree-like shape. In some studies; both knees are affected but not common and happens in up to 20% of cases (Hallel et al., 1988; Yan et al., 2008). Patients with lipoma arborescens frequently experience swelling and frequent attacks of pain in the knee area. Due to its scarcity, diagnosis is often delayed. In Our case the patient is diabetic and had a history of rheumatoid arthritis, which make the diagnosis more complicated. Lipoma arborescens usually affects adults (Burguêz et al., 2021). It is most common in the knee joint, but other places have also been described. Patients develop joint pain, effusion and swelling. Its diagnosis depends on the specific appearance on MRI scan (De Vleeschhouwer et al., 2016). The treatment of lipoma arborescens is synovectomy either open surgery or using arthroscope. Its recurrence is not common. It is not a tumor but is considered a reactive response to irritation of synovial membrane, due to either inflammatory or

mechanical injuries (Tsifountoudis et al., 2017; Baidoo et al., 2021; Nevins et al., 2020; Wang et al., 2019; Hecht et al., 2018).

2. CASE PRESENTATION

We are reporting a case of 49-years old female diabetic came in rheumatology clinic of King Khalid Hospital in Al-Kharj. She had a two-year history rheumatoid arthritis and was treated with methotrexate. Besides, she had a right knee arthroscopy and synovectomy for “pigmented villonodular synovitis”. Then, the patient came in the outpatient clinic with a swollen knee. At examination, she has arthritis of the ankles and the wrists and a swollen right knee. Local examination revealed limitation of knee movement and a swollen right knee in the right supra-patellar area. No changes were observed on the skin of the knee. A review of other systems did not reveal any other symptoms. Otherwise, arthritis of the ankles and the wrists were observed. Laboratory investigations show elevated inflammatory markers and normal liver and renal panels. An MRI of the right knee was ordered.

Laboratory investigations show elevated inflammatory markers and normal liver and renal panels. X-ray revealed mild narrowing of the joint space (Fig. 1). There is no erosion of the articular surfaces. To specify the lesion, MRI of the right knee was performed. MRI showed fat-signal mass of the right knee with synovial proliferation. This mass filled the suprapatellar area. Also, there was a frond-like shape, encircled by too much joint fluid (Fig. 2, 3 and 4). The left knee was normal. Now, she has admitted for open synovectomy.

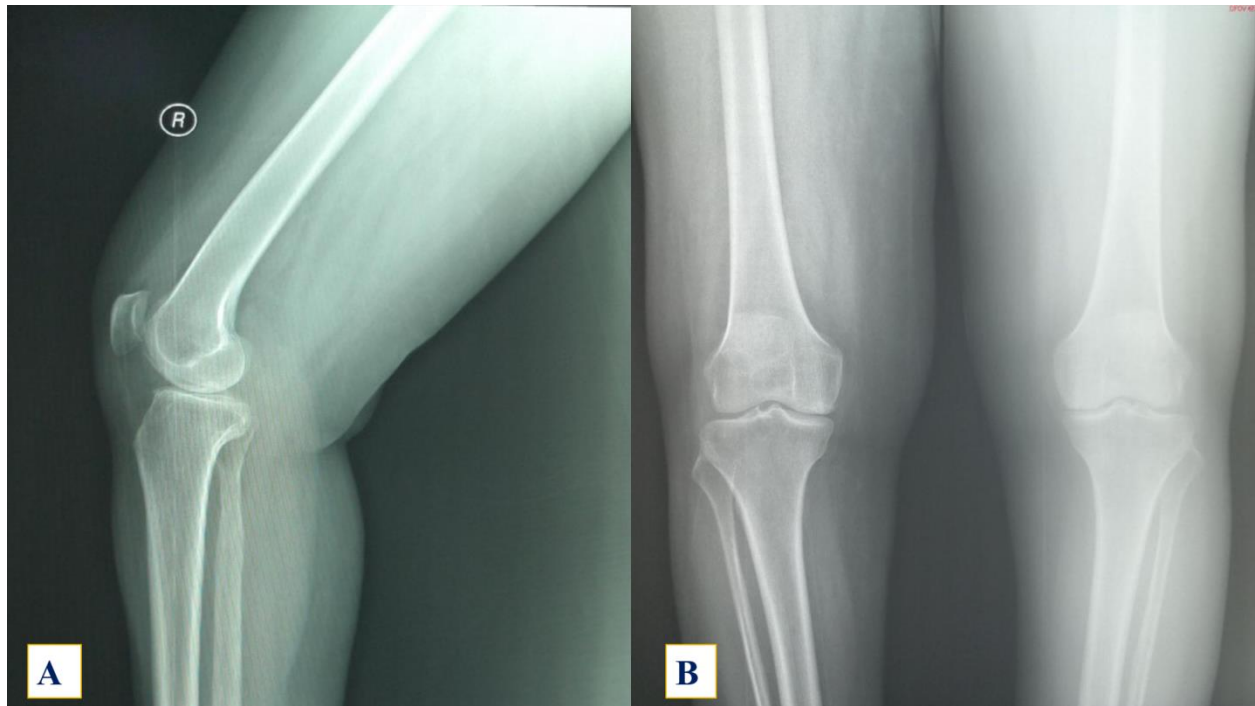


Figure 1 A) Lateral x-ray view of the knee, B) Bilateral knees x- rays view , showing swollen right Knee.

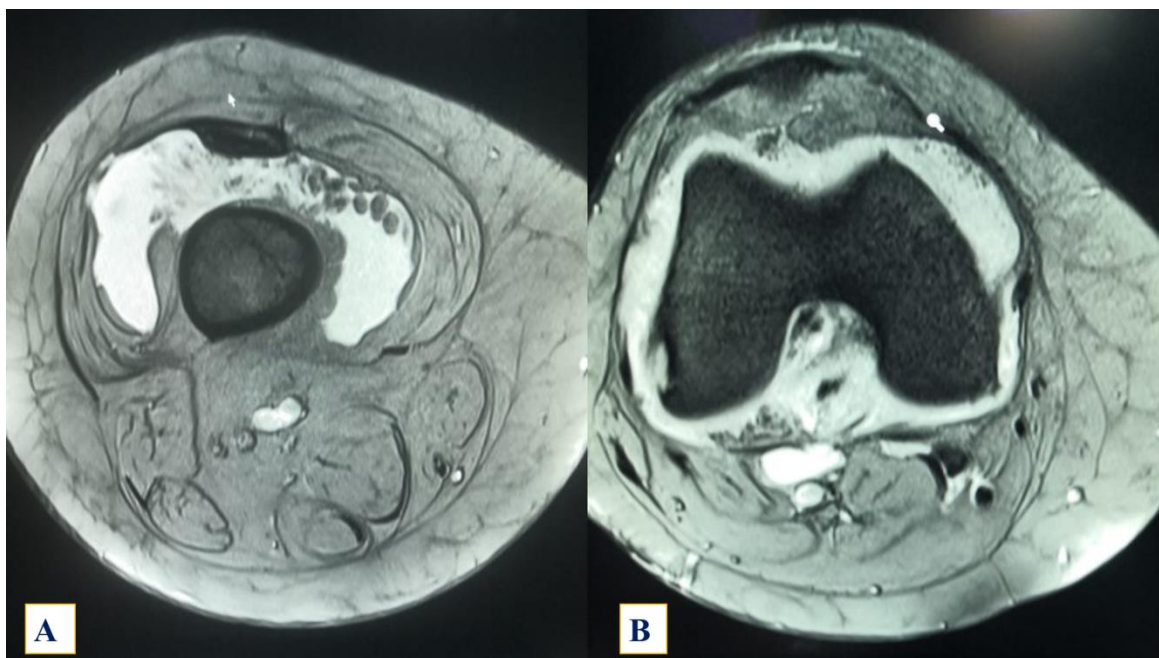


Figure 2 A & B Axial MRI images shows a synovial mass outlined by joint effusion seen at multiplanar multisequence MRI study, showing fat signal in all sequences, High S.I in T1WI and T2WI and saturate in fat suppressed sequence.

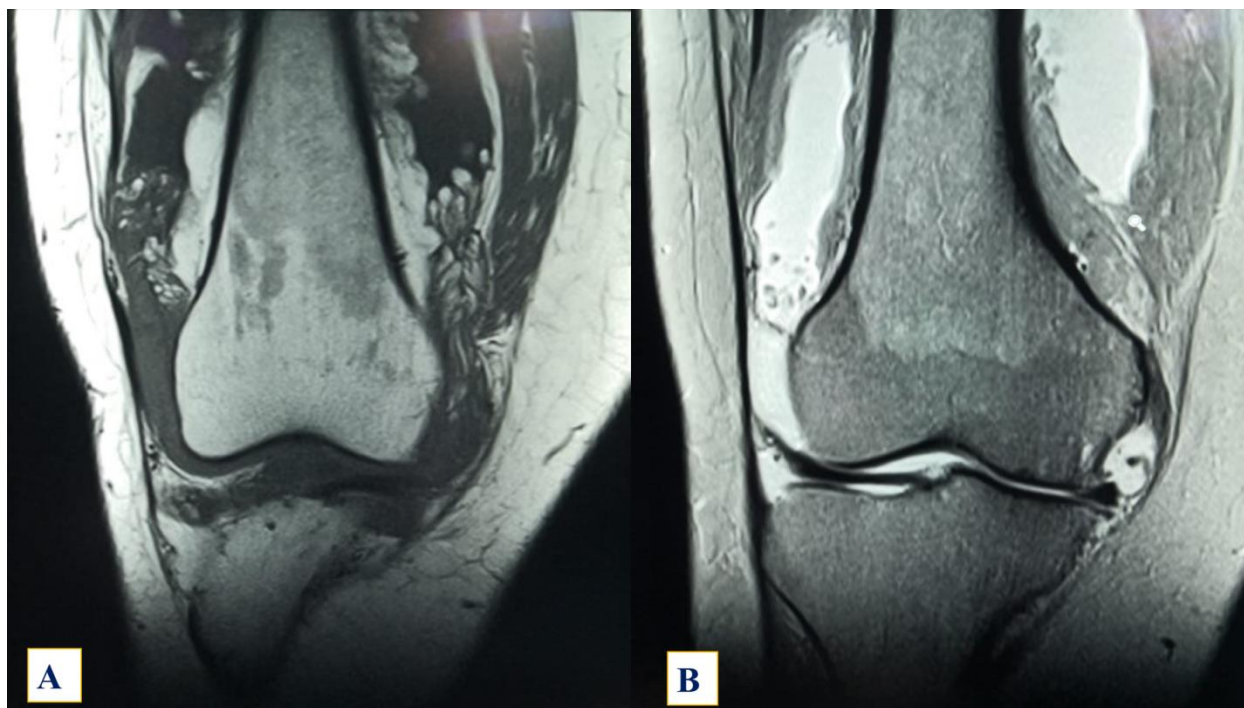


Figure 3 A & B Coronal MRI images shows a synovial mass outlined by joint effusion seen at multiplanar multisequence MRI study.

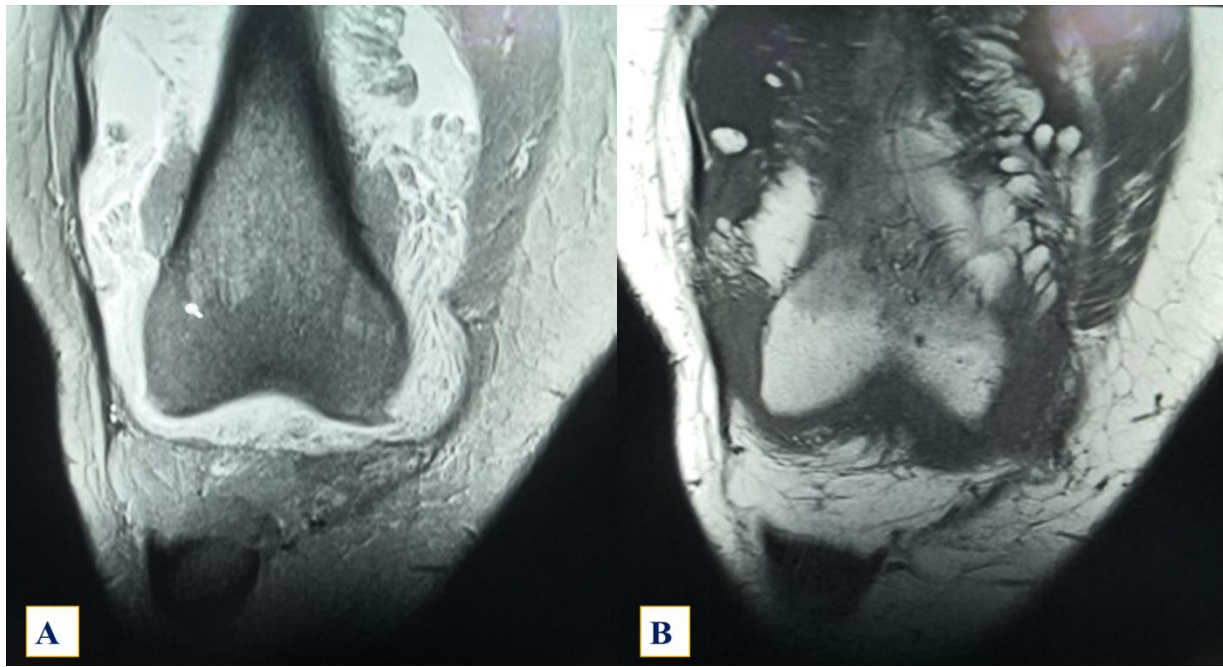


Figure 4 A & B Coronal MRI images is a synovial mass outlined by joint effusion seen at multiplanar multisequence with a frond-like shape.

3. DISCUSSION

In fact, the term “lipoma” is not accurate because it does not show any character of a neoplasm. Subsequently, it was suggested by Hallel et al., (1988) that synovial membrane lipomatous proliferation would be a more appropriate name. The word arborescens came from “arbor” and describes the feature tree-like shape. Lipoma arborescens commonly influences the knee joint, especially the suprapatellar area, but has also been announced to occur in other joints like elbow, hip, and shoulder (Bejia et al., 2005). On the other hand, most of the cases are unilateral. Bilateral affection has also been reported (Chae et al., 2009; Santiago et al., 2009). The cause of lipoma arborescens is not known. Despite the fact that in some conditions it was accompanied with some diseases, as diabetes mellitus, psoriatic or rheumatoid arthritis (Bernardo et al., 2004).

The best treatment of Lipoma arborescens is open synovectomy and its recurrence is not common. Some surgeons prefer arthroscopic synovectomy but recurrence rates are common (Franco et al., 2004). In addition, synovectomy using a chemical substance like Yttrium has been used to temporarily relief of the symptoms, but not as the ultimate remedy (Davies & Blewitt, 2005). Delayed treatment may lead to osteoarthritis (Natera et al., 2015).

4. CONCLUSION

We described a case of lipoma arborescens; a relatively rare and benign intra-articular lesion. Its symptoms are not specific. It was diagnosed clinically and MR imaging. Early synovectomy is the recommended treatment.

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Informed consent

Written and oral informed consent was obtained from all individual participants included in the study.

Authors' Contributions

Design and conduct of the study: Ali Hassan A. Ali, Omar O. Serhan and Mohamed Manaa.

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Approval of the manuscript: Ali Hassan A. Ali, Omar O. Serhan and Mohamed Manaa.

Decision to submit the manuscript for publication: Ali Hassan A. Ali and Omar O. Serhan.

All authors contributed equally to this work and they have read and agreed to the final manuscript.

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Conflict of interests

The authors declare that there are no conflicts of interests.

Data and materials availability

All data associated with this study are present in the paper.

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