Oxford City Publishers

Case Reports in Orthopaedic Surgery Journal

Case Report | Vol 3 Iss 3

Bilateral Knee Lipoma Arborescens

Muhindra Rao*, Nor Hazla Binti Mohamed Haflah and Mohamad Hafiz Bin Sani

Department of Orthopaedics, Hospital Chanselor Tuanku Muhriz, Pusat Perubatan Universiti Kebangsaan, Malaysia

***Corresponding author:** Dr. Muhindra Rao, Department of Orthopaedics, Hospital Chanselor Tuanku Muhriz, Pusat Perubatan Universiti Kebangsaan, Malaysia. E-mail: muhindra86@gmail.com

Received: June 26, 2024; **Accepted:** July 13, 2024; **Published:** August 05, 2024

Introduction

Lipoma arborescens is a rare disorder which is characterised by villous, polypoidal lipomatous proliferation of the synovial tissues [1]. It usually involves the suprapatellar pouch [2]. The exact etiology of lipoma arborescens is unknown. It is a benign, indolent, intraarticular lesion that commonly affects the knees, although other sites such as shoulder, elbow, wrist and ankle have been described before [3]. The disease normally affects one knee and bilateral knee involvement is a very rare occurrence [4]. We report a case of bilateral knee lipoma arborescens in an elderly lady in our centre.

Case Presentation

A 53-year-old lady with underlying diabetes mellitus, hypertension, mitral valve prolapse secondary to chronic rheumatic heart disease, bipolar mood disorder, gout which was well controlled under the treatment of rheumatologist, and alpha thalassemia presented with bilateral knee pain and effusion over both knees. The pain was intermittent in nature and mainly affected her when she was walking, however there were episodes of which she had pain during rest as well. There was no fever or increased redness over the bilateral knee as well as no limitation in the range of movement of the knee to suspect and infection. There were no locking symptoms to bilateral knee (Figure 1). The effusion was reported to be progressively increasing by the patient. She had no constitutional symptoms and had no tuberculosis contact previously. There was also no history of trauma to the bilateral knees. Physical examination revealed bilateral swelling of the knee joints. Both knees had a normal local temperature and normal skin coloration and were not tender to palpation. Both joints were more voluminous than expected, and a mild joint effusion was present bilaterally. Full extension and 140 degrees of flexion were possible in both knees, and knee motion did not elicit pain. There was no tissue mass around the knees, however there was suprapatellar bogginess. No laxity could be detected. Systemic review was normal.

Routine blood investigations were normal with no significant abnormalities. Radiographs of bilateral knees show osteoarthritis changes with narrowing of the joint spaces with subchondral sclerosis and osteophytes of bilateral knees. However, the voluminous appearance of both knees coupled with her history of pain prompted us to perform a Magnetic Resonance Imaging (MRI) of her bilateral knees (Figure 2).

The MRI of the right knee reported a suprapatellar effusion, thickened synovium with undulating margins and multiple frondlike structures within the suprapatellar effusion and patellofemoral joint space. It appeared hyperintense to muscle on T1 weighted images, intermediate to hyperintense on T2 weighted images and show homogenous fat suppression on T1 fat suppressed sequence. No significant enhancement on post contrast sequence. However, there was enhancement of the synovial fluid on post contrast sequence. The frond- like structures extends to the medial and lateral aspect of the distal femur however with no bony erosion demonstrated (Figure 3).

The MRI of the Left knee reported similar frondlike structures with a thickened synovium mainly over the suprapatellar pouch with presence of mild effusion. It was also appeared hyperintense to muscle on T1 weighted images, intermediate to hyperintense on T2 weighted images and show homogenous fat suppression on T1 fat suppressed sequence based on both the clinical and radiological findings, a diagnosis of bilateral knee lipoma arborescens was made. Patient was then reassured and treated with analgesics for which her pain and swelling improved. She was offered synovectomy to help with the pain, however patient refused. She was discharged without any pain and on follow up at 1 month she claims her pain and swelling had improved.

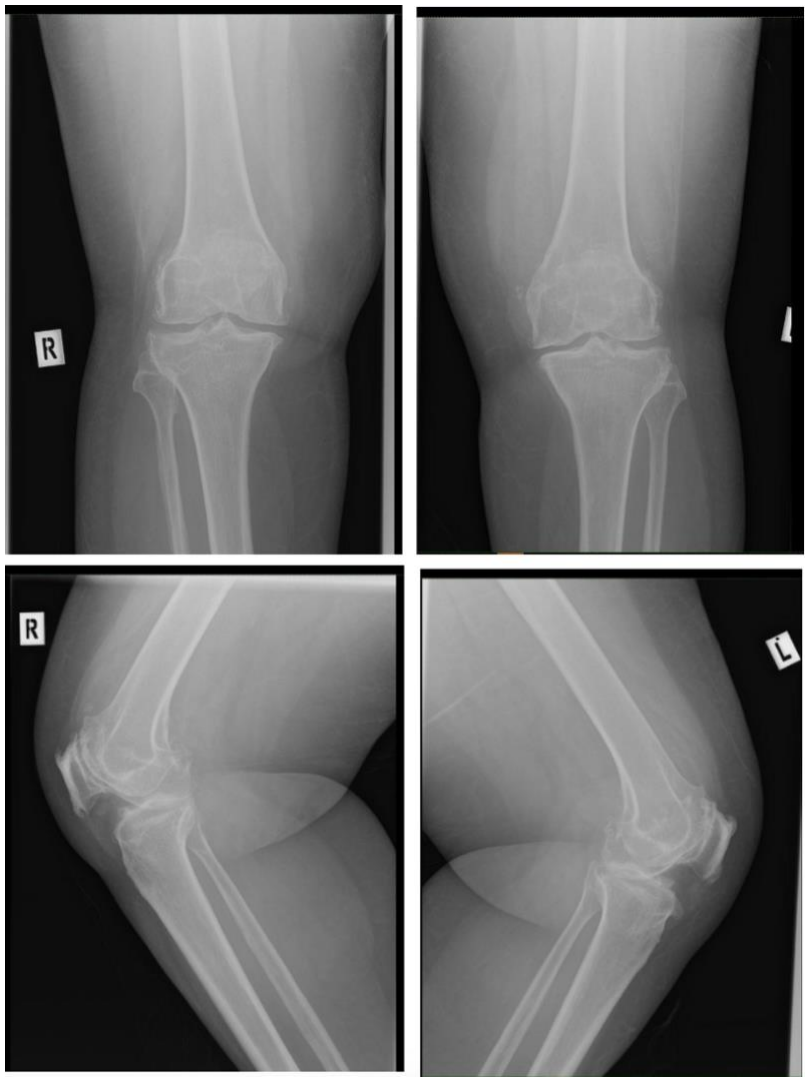

Figure 1: Bilateral knee lipoma arborescens.

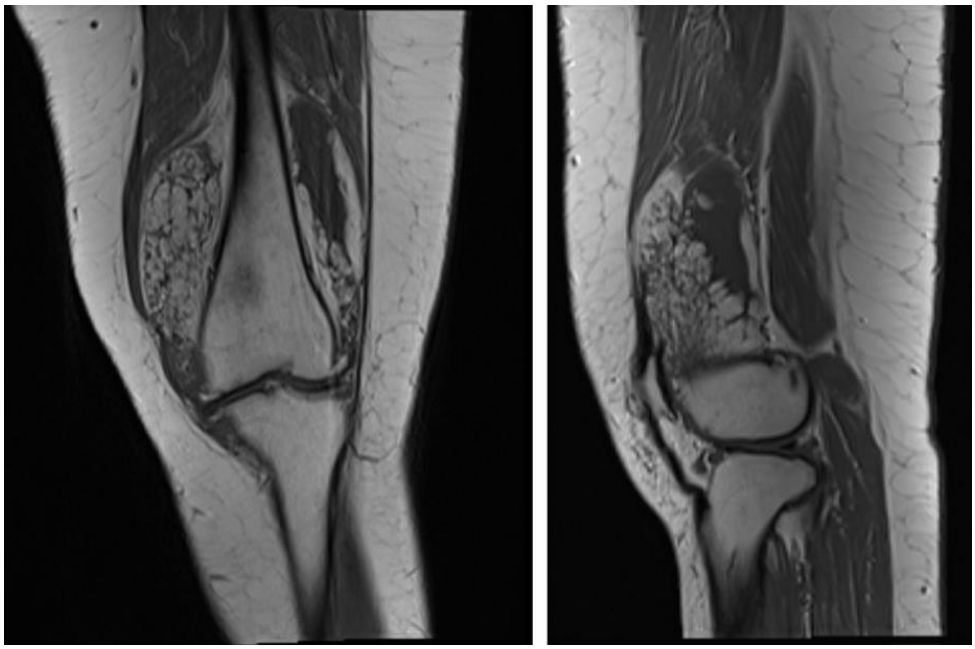

Figure 2: Coronol and sagittal view of the MRI of the left knee showing diffuse mild synovial thickening with nodular frond-like lipomatous lesions, in favour of lipoma arborescence. Similar appearance seen in MRI of both knees.

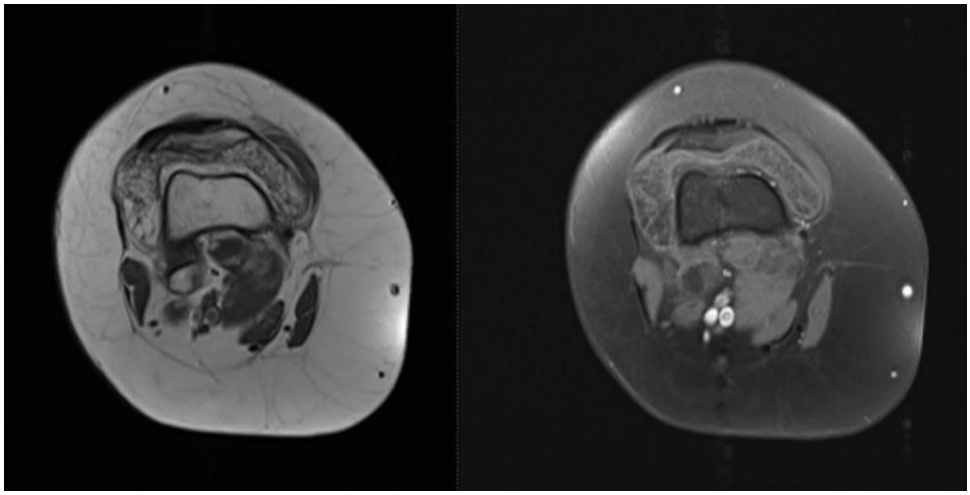

Figure 3: Axial view of MRI of the knee shows homogenous fat supression on T1 Fat supressed sequence in favour with a lipomatous tumour.

Discussion

Lipoma arborescens is a rare synovial disorder mostly presenting in the 4th to 5th decade of life with equal predilection for both males and female [4]. The knee is the most common site and it normally affects unilateral knee, and the is paucity in literature about bilateral knee lipoma arborescens [4]. The etiology and pathogenesis of this disease in unknown although some authors have attributed an antecedent cause for the lipomatous proliferation such as trauma or infection to the knee [3].

Patients complain of chronic, progressive, painless swelling of the involved joint. Effusion is almost always present, but limitations in range of movement and pain are not seen very often although they may have intermittent pain [3]. Mechanical symptoms such as locking and popping are rare in this disease [4]. The lesion is soft in consistency and not tender to palpation. This condition usually occurs unilaterally.

The clinical differential diagnosis of lipoma arborescens of the knee includes pigmented villonodular synovitis, a true intra-articular lipoma, synovial chondromatosis, synovial hemangioma, rheumatoid arthritis, and chronic inflammatory synovial proliferation [4]. Magnetic resonance imaging (MRI) is the gold standard imaging of choice in diagnosis of this condition. Magnetic resonance imaging shows a villous-like synovial mass with a signal intensity similar to that of fat on all sequences and also reveals the frondlike architecture. There is usually an associated joint effusion and no evidence of hemosiderin deposition. In contrast, pigmented villonodular synovitis typically demonstrates low signal intensity on both T1-weighted and T2-weighted scans. However, imaging findings should be correlated with histology to confirm the diagnosis.

The treatment of lipoma arborescence in an asymptomatic patient is usually conservative with occasional analgesics to manage the pain. However, if the pain symptoms persist and affects the patient, then surgical options may be offered. The treatment is usually an open or arthroscopic arthrotomy coupled with a synovectomy. Arthroscopic technique is preferred if the lipoma arborescence is small and only confined to the anterior compartment of the knee, as it is associated with less morbidity and help in post-operative rehabilitation as well as better cosmetic results to the knee [1]. However, in extensive lesions, an open synovectomy is preferred as achieving a complete synovectomy is associated with alleviation of all symptoms [1].

Conclusion

Although rare and benign, bilateral lipoma arborescence of the knee should be considered in the differential diagnosis of bilateral swelling of the knee. This condition can be managed conservatively as in our patient, however if the condition causes pain and discomfort, surgical management of synovectomy is advocated.

REFERENCES

1. Mahajan A. Bilateral knee lipoma arborescens: A case report and review of literature. Saudi J Sports Med. 2016; 16: 147-149.
2. Sanamandra SK, Ong KO. Lipoma arborescens. Singapore Med J. 2014; 55: 5-11.
3. Tsifountoudis I, Kapoutsis D, Tzavellas AN, et al. Lipoma Arborescens of the Knee: Report of Three Cases and Review of the Literature. Case Rep Med. 2017; 3569512.
4. Fr´ed´eric S, Patrick H, Aurore C, et al. Bilateral Lipoma Arborescens of the Knee: A Case Report. Journal Bone Joint Surg Am. 2011; 93: 195-198.
5. Hallel T, Lew S, Bansal M. Villous lipomatous proliferation of the synovial membrane (lipoma arborescens). J Bone Joint Surg Am. 1988; 70: 264-270.