

# Lipoma arborescens: an unusual case of knee swelling

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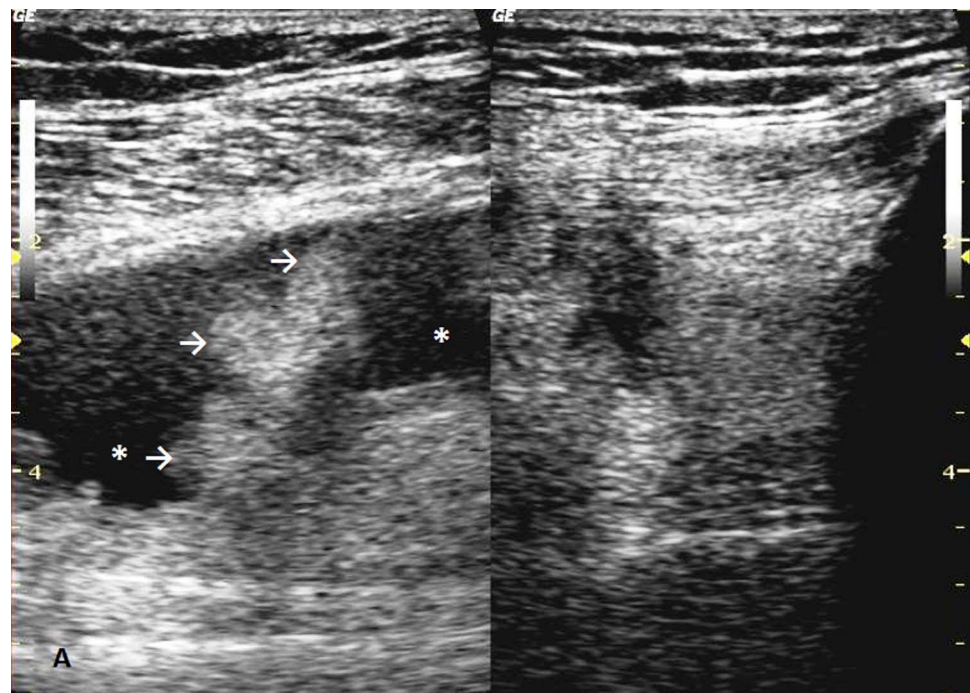
## DESCRIPTION

Lipoma arborescens is a rare condition of unknown aetiology with benign diffuse villous proliferation of the synovium characterised by replacement of the subsynovial tissue by mature adipocytes. The knee is the most commonly involved joint.<sup>1</sup>

A 56-year-old man with a history of trivial trauma 5 years ago, came with gradually increasing pain and swelling in the right knee. On examination there was a diffuse swelling of the right knee predominantly on the lateral aspect which was doughy in consistency with limited range of movements. The left knee was normal.



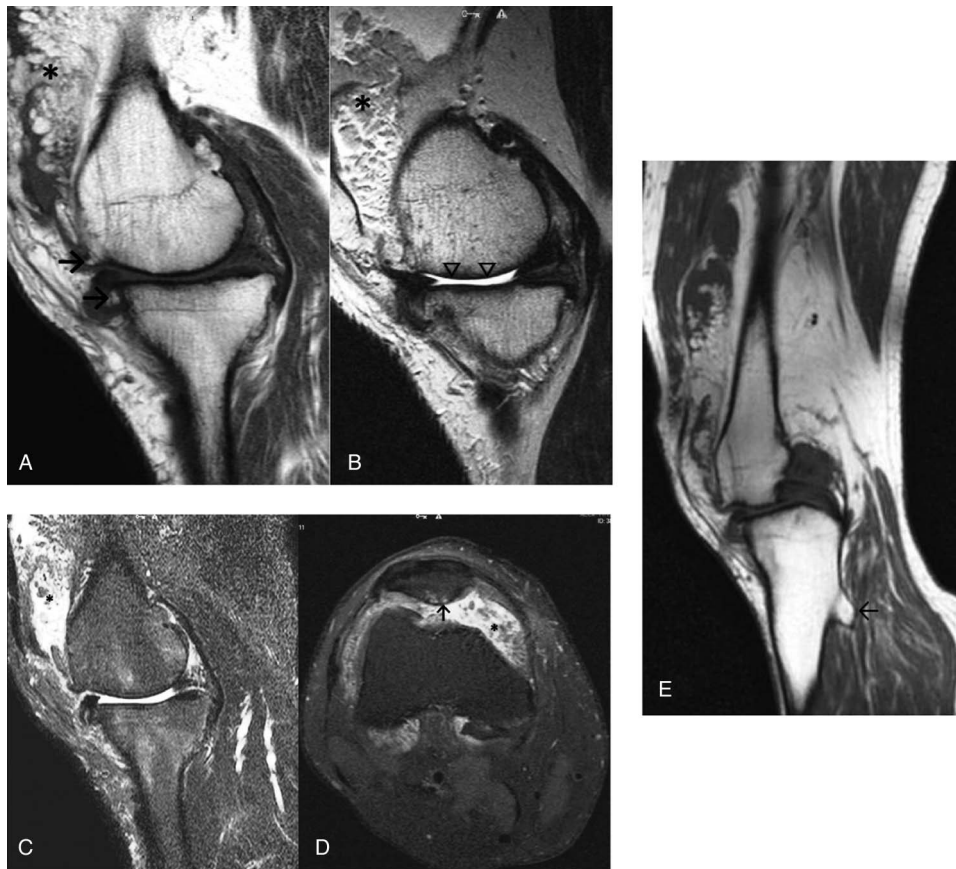
**Figure 1** (A and B) Plain radiograph anteroposterior and lateral views showing evidence of osteoarthritis with suprapatellar bursa fullness. No bony erosion noted.



**Figure 2** (A) Ultrasound of suprapatellar bursa showing fluid collection (asterisk) with thickening of the synovial membrane and hyperechoic frond-like projections (arrow) within.



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**Figure 3** (A–E) MRI of the right knee joint T1-weighted (A), T2-weighted (B) and fat-suppressed proton density (PDFS) images (C) in the sagittal section showing multiple frond-like projections [asterisk] of the synovium depicting signal intensity parallel to that of fat within suprapatellar bursa along with moderate effusion [arrowheads]. Osteophytes are noted at articular margins of femur and tibia [arrow]. PDFS sequence in axial (D) sections shows the frond-like projections [asterisk] as hypointensities within the hyperintense fluid in suprapatellar bursa. Grade 4 cartilage defect (arrow) is also noted in patellar articular surface. Incidental exostosis [arrow] was seen in the tibia (E).

Plain radiograph of the right knee (figure 1A,B) showed evidence of osteoarthritis with suprapatellar bursa fullness. No bony erosion was seen. Sonography of the knee (figure 2A) revealed fluid collection within the suprapatellar bursa with thickening of the synovium and hyperechoic frond-like projections within. MRI (figure 3A–E) showed mild joint effusion, synovial thickening and multiple frond-like projections of the synovium with signal intensity parallel to those of fat findings were characteristics of lipoma arborescens.

Differential diagnosis includes synovial lipoma which is usually a round to oval mass of fat in the joint, pigmented villo-

nodular synovitis which shows synovial proliferation with foci of low signal intensity hemosiderin on T2-weighted images and adjacent bony erosions and synovial haemangioma which is characterised by flow void and intense enhancement.<sup>2</sup>

Open or arthroscopic synovectomy with excision of the lesion is the treatment of choice for lipoma arborescens which yields a good outcome.<sup>3</sup> In our case, the patient refused surgery and was under observation.

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**Patient consent** Obtained.

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## Learning points

- ▶ Lipoma arborescens should be considered in the differential diagnosis of unexplained knee joint swelling.
- ▶ MRI provides definitive diagnosis for lipoma arborescens.
- ▶ High signal intensity synovial fluid on T2-weighted and short T1 inversion recovery-weighted images, with intra-articular frond-like villi of fat with high signal intensity on T1-weighted image and low signal intensity on fat-suppressed images are the characteristic findings.

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