

Imaging findings in lipoma arborescens

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Accepted 19 March 2015

DESCRIPTION

A 27-year-old man presented with painless swelling of the right knee of 4 months' duration. There was no history of trauma or other joint involvement. The patient's serum rheumatoid factor was negative.

Radiograph of the knee revealed increased lucency in the prefemoral region (figure 1A). Ultrasonography depicted echogenic, frond-like hypertrophy of the synovium in the suprapatellar bursa (figure 1B). This hypertrophied synovium was



Figure 1 (A) Lateral radiograph of the right knee depicts an increase in radiolucency in the prefemoral region (white arrows). (B) Longitudinal sonogram showing hyperechoic thickening of the synovium in the right suprapatellar bursa (white arrowheads). There is associated joint effusion (white arrow). (C) On CT, the synovium typically appears as a globular mass with fat attenuation (white arrowheads) seen in the suprapatellar bursa with associated effusion.



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To cite: Aswani Y, Anandpara KM, Hira P, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2014-208293

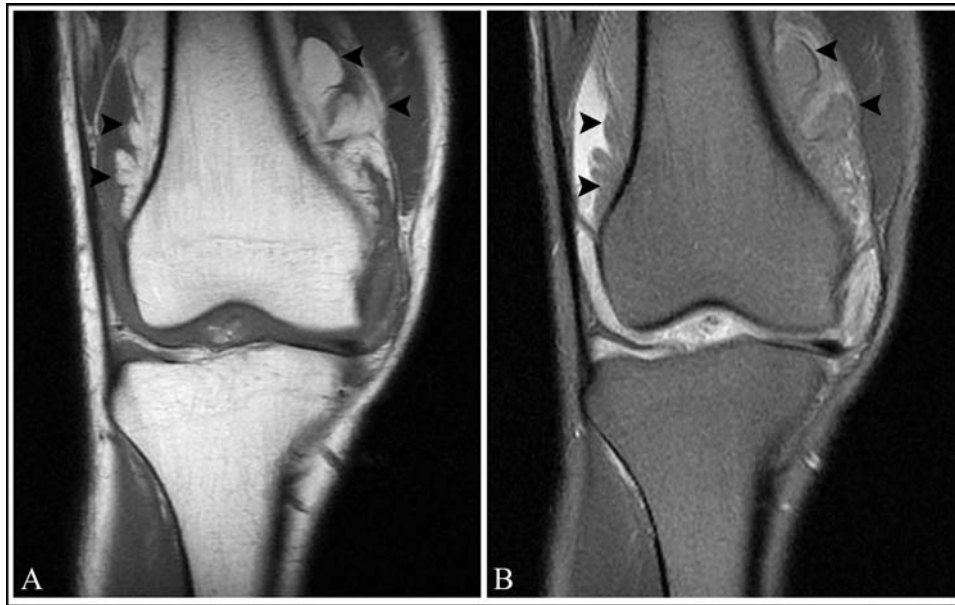


Figure 2 (A) T1-weighted coronal view of the right knee revealing hyperintense thickened synovium with a villous and globular configuration (black arrowheads). (B) Fat-saturated proton density image in coronal view depicting suppression of the fatty synovium (black arrowheads).

of low density on CT (figure 1C). Additionally, there was mild joint effusion. MRI depicted a T1 and T2 hyperintense synovial mass (figure 2A), villous and globular in configuration, which was suppressed on fat saturation sequences, confirming the fatty nature of the lesion (figure 2B). A diagnosis of lipoma arborescens was established and the patient underwent synovectomy. At 7 months' follow-up, he was asymptomatic.

Lipoma arborescens is a rare, benign, intra-articular lesion that, when present, generally afflicts the knee joint.¹⁻³ It presents as painless joint swelling.¹ Its aetiology is unknown and an unusual response to chronic synovial irritation in osteoarthritis; rarely rheumatoid arthritis, trauma or diabetes mellitus (secondary form) is proposed.^{2,3} There is fatty infiltration of the synovium, which accounts for the increased radiolucency. MRI typically reveals frond-like or globular synovial thickening, the signal of which suppresses on fat saturation.¹⁻³

Differentials include synovial lipoma (situated in or around Hoffa's fat pad as a single mass), synovitis (thickened synovium that does not suppress on fat saturation) and loose bodies (showing decreased signal on all sequences; they may contain central fatty marrow). Lipoma arborescens does not undergo complete regression and hence synovectomy is the preferred mode of treatment.²

Learning points

- ▶ Lipoma arborescens, although a rare entity, needs to be considered in the differential list of monoarticular joint involvement, especially when the involvement is in the form of painless joint swelling.
- ▶ Fatty infiltration of the synovium gives rise to radiolucency on plain films and hyperechogenicity on ultrasonography. This can be also demonstrated as low-density synovium on CT and suppression of signal on fat saturated sequences in MRI.
- ▶ Since lipoma arborescens does not undergo complete regression, synovectomy is the preferred mode of treatment.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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