Lipoma arborescens: an unusual case of knee swelling

Radha Sarawagi,1 Sahadevan Vijay,1 Ajit Kumar Reddy,2 Prakash Manikka Lakshmanan1

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.1

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.
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 villonodular synovitis which shows synovial proliferation with foci of low signal intensity hemosiderin on T2-weighted images and adjacent bony erosions and synovial haemangiomata which is characterised by flow void and intense enhancement.2

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

Learning points

- Lipoma arborescence 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.