

Primary Intra-Articular Liposarcoma of the Knee

Case Report

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INTRODUCTION

Liposarcoma is a rare tumor found in the fatty tissues of the body. It has been documented at sites where a small amount of fat exists (eg, the patellar fat, orbit, ischio-rectal tissue, etc).^{10,12,13} Lipoma, on the other hand, is a common benign clinical condition that can be managed conservatively or with simple surgical excision.

This article presents a patient with a primary liposarcoma in the knee. All fatty lesions should be considered suspicious and investigated fully, particularly those found at unusual sites.

CASE REPORT

A 39-year-old man presented with right knee discomfort and swelling of 6 weeks' duration. On physical examination, a palpable 2×2-cm, well-defined, oval, nontender, soft cystic, non transilluminant swelling on the medial aspect of the right knee was noted. This was more prominent while standing than in other positions. No joint effusion was noted and the patient demonstrated a full range of knee movements with no neurovascular deficit. Medical history was normal.

Plain radiograph of the knee was normal. Magnetic resonance imaging of the knee showed an out pouching on the medial side that was continuous with the synovium (Figure 1). Intermediate signal intensity on T1 images and increased intensity on T2 images was noted.



Figure 1. MRI of the right knee shows an out pouching on the medial side that was continuous with the synovium.

Lipoma was clinically diagnosed and arthroscopy through a standard anteromedial and anterolateral incision revealed a soft, intra-articular, intrasynovial fatty lump with a pedunculating base extending into the medial femoral condyle, which was excised.

Histologically, a lobulated tumor in close apposition to normal fat was found covered by a synovium. A delicate capsule with satellite nodes of tumor invasion also was seen. The tumor had a classical appearance of low-grade myxoid liposarcoma with a typical vascular pattern (Figure 2). An area of scattered foci of a few round cell tumors was noted. No vascular invasion was seen on histology.

The patient subsequently underwent an extra-articular resection of the knee with a custom-made knee prosthesis (Figure 3). Transfer of the semimembranous muscle to the patellar tendon residue and the tensor fascia lata to the

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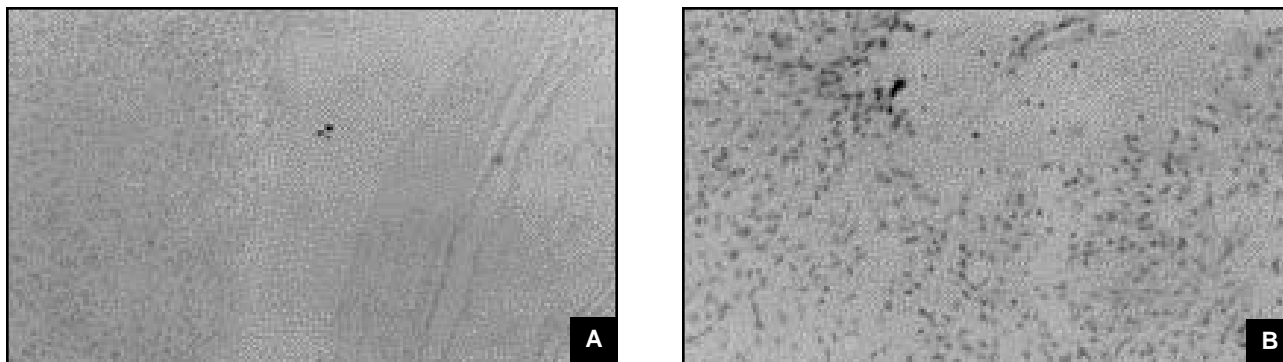


Figure 2. Low- (A) and high- (B) power magnification of the tumor show classical appearance of low-grade myxoid liposarcoma adjacent to normal tissue with a typical vascular pattern (original magnification).

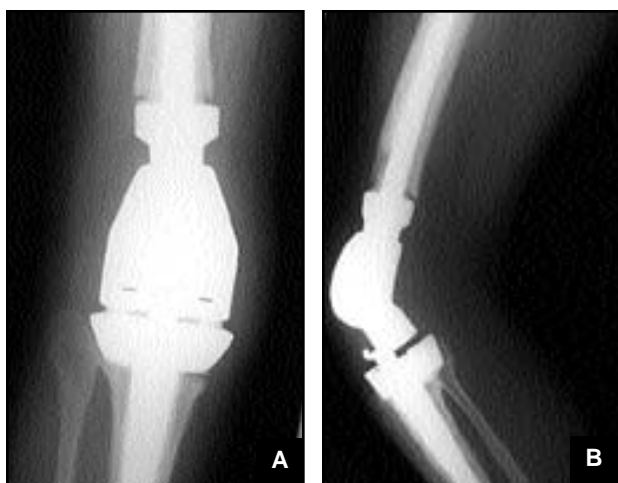


Figure 3. Postoperative AP (A) and lateral (B) radiographs after resection of the tumor and insertion of the custom-made prosthesis.

lateral side was used to reconstruct the extensor mechanism. The rectus was rotated superiorly over the gap and formed the most anterior part of the reconstruction. The proximal and distal resected margins showed no evidence of residual or recurrent tumor on histology.

The patient was kept in a popliteal cylinder cast for 6 weeks. At 5-year follow-up, no reoccurrence or metastasis has been noted.

DISCUSSION

Liposarcoma is a soft-tissue malignancy of the body.^{1-4,8,9,14,19} It has a predilection to the lower limbs of the body particularly the thighs, buttocks, groin, lower leg, and retroperitoneum.¹⁶ The usual treatment is surgery, but reoccurrence is common. Close follow-up is essential. Metastasis can occur in the liver, pleura, and lungs.^{3,19}

Although liposarcoma may be found in pre-existing

benign lesions, it often arises de novo.^{3,19} Four histological categories are recognized: 1) well-differentiated; 2) round cell; 3) pleomorphic, and 4) myxoid, the most common variant, which is found in the thigh and popliteal area.⁸

Radiolucency is related to the degree of differentiation. Well-differentiated becomes radiolucent whereas myxoid liposarcomas have a low-grade malignancy. All have a late tendency for reoccurrence and metastasis therefore wide removal of the well-differentiated tumor is recommended.⁴ Treatment options range from conservative treatment with close follow-up to arthrodesis and radical amputations.

Liposarcomas have been found at uncommon sites of the body.^{5-7,3-13,15-18,20} The knee is another unusual site. All lipomas found at unusual sites should be investigated for the possibility of a malignant lesion.

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