

Lipoma arborescens with hemarthrosis of the knee

A case report

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Lipoma arborescens is a rare intraarticular lesion, typically with a clear yellow aspirate. We report a

case of lipoma arborescens with hemarthrosis of the knee.

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A 55-year-old woman came to our clinic with a 3-year history of pain and swelling of the right knee. She could not recall any trauma. There was moderate swelling, effusion, and an ill-defined mass palpable in the suprapatellar pouch. The range of knee motion was 10-95°. 25 mL bloody fluid was aspirated. No crystals or cells were found, and cultures were negative. Serum analysis, including platelet count, coagulation time, bleeding time and erythrocyte sedimentation, was normal. Rheumatoid factor was negative. No petechial hemorrhages were found, and the Rumpel-Leede test was negative. Radiograms revealed slight degenerative changes. MRI showed a high intensity lesion in the suprapatellar pouch.

After 1 month, an operation was performed. Diffuse villonodular fatty proliferation of the synovial membrane, yellow to yellow-brown, was found in the suprapatellar pouch (Figure 1). The cartilage of the medial femoral condyle was slightly eroded, but the menisci and cruciate ligaments were intact. A synovectomy of the suprapatellar pouch was performed.

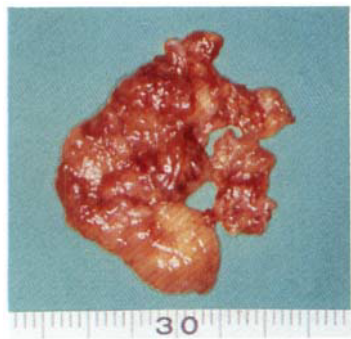


Figure 1. Gross appearance shows fatty, villonodular synovial proliferation, which is yellow to yellow-brown.

Microscopic examination showed almost complete replacement of the subsynovial tissue by mature fat cells forming villous projections (Figure 2). Mild inflammatory signs (capillary proliferation and leukocyte infiltration) and interstitial bleeding were also seen (Figure 3).

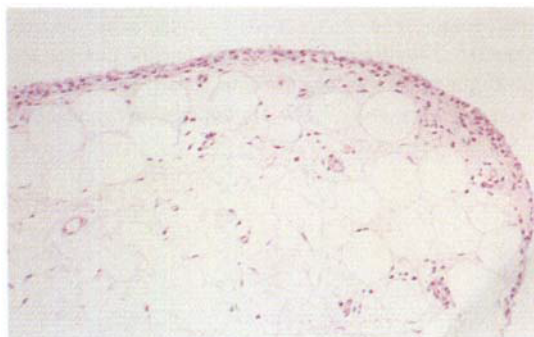


Figure 2. Histologically, there is almost complete replacement of the subsynovial tissue by mature fat cells forming villous projections (H&E, $\times 17$).

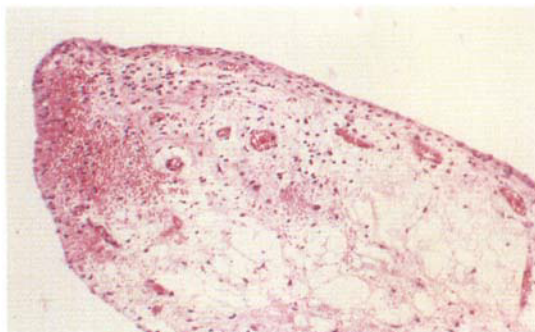


Figure 3. Interstitial bleeding, capillary proliferation and inflammatory cells are seen in the subsynovial layer (H&E, $\times 17$).

After operation, the symptoms subsided. The patient remained asymptomatic at the most recent follow-up examination, 1 year later.

Discussion

Lipoma arborescens is a rare intraarticular lesion usually found in the knee. To our knowledge, only 17 cases have been reported (Arzimanoglu 1957, Weitzman 1965, Burgan 1971, Hermann and Hochberg 1980, Hallel et al. 1988, Armstrong and Watt 1989, Hubscher et al. 1990). The symptoms are gradual joint swelling, intermittent pain, effusion and restriction of motion (Hermann and Hochberg 1980). The aspirated fluid from the joint is usually clear and yellow. The gross appearance is that of diffuse pigmentless villonodular synovitis (Hermann and Hochberg 1980). Histologically, there is complete replacement of the sub-synovial tissue by mature fat cells that form the proliferative villous projections (Hallel et al. 1988).

In our patient it was important to differentiate the condition from spontaneous hemarthrosis, including pigmented villonodular synovitis, idiopathic hemarthrosis, hemangioma, and malignant tumor. The diagnosis of lipoma arborescens was established by the macroscopic and microscopic findings in the surgical specimen. Neither malignant cells nor the characteristic findings of pigmented villonodular synovitis, such as histiocytes, foam cells, multinucleated giant cells,

or iron deposits, were noted microscopically in the specimen.

The cause of hemarthrosis in our patient is not clear. The interstitial bleeding in the subsynovial layer suggests a possible impingement of the villonodular proliferative synovium between the patella and the distal femoral head. Although its incidence is low, lipoma arborescens should be considered in the differential diagnosis of patients having hemarthrosis of the knee without a history of trauma.

References

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