

Recurrent Intra-articular Synovial Hemangioma – A Case Report

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Learning Point of the Article:

Prompt diagnosis and management of a rare condition to prevent damage to articular cartilage.

Abstract

Introduction: Synovial hemangioma is a rare benign condition that is seen predominantly in the adolescent age group. Patients commonly present with pain and swelling of the involved joint. Here, we report a case of recurrent synovial hemangioma in a 10-year-old girl.

Case Report: A 10-year old presented with complaints of recurrent swelling in her right knee of 3 years duration. She had complaints of pain, swelling, and deformity of her right knee. She had undergone a surgery to excise the swelling earlier for similar complaints elsewhere. She remained asymptomatic for a year, after which swelling reappeared.

Conclusion: Synovial hemangioma is a rare benign condition that is often missed and needs to be promptly addressed to prevent damage to the articular cartilage. The chance of recurrence is high.

Keywords: Synovial hemangioma, recurrence, sclerotherapy.

Introduction

Synovial hemangiomas are rare benign lesions that arise in the knee (most common), elbow, wrist, ankle, or synovium of tendon sheaths [1]. The usual age of appearance is adolescence [2].

Patients present with joint pain, fullness, and difficulty in ambulation. Delay in diagnosis is seen if a visible swelling is not present. A missed diagnosis could lead to arthritic joint changes in the future [3].

Here, we describe the evaluation and management of a recurrent synovial hemangioma of the knee in a 10-year-old girl.

A 10-year old presented with complaints of recurrent swelling in her right knee of 3 years duration. She had complaints of pain, swelling, and deformity of her right knee. She had undergone surgery to excise the swelling earlier for similar complaints elsewhere. She remained asymptomatic for a year, after which swelling reappeared.

Physical examination revealed a soft lump measuring 3 × 4 cm in the suprapatellar region of her right knee. There was a fixed flexion deformity of 10°. The plain X-ray revealed a poorly defined soft-tissue density over the infrapatellar fat pad. No joint-related changes were seen (Fig. 1).

An magnetic resonance imaging (MRI) scan was done which revealed a lobulated hyperintense lesion involving Hoffa's fat pad, extending from the anterior margin of the patella to the

Case Report

Author's Photo Gallery



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Figure 1: X-ray lateral view.



Figure 2: Magnetic resonance imaging.

anterior cruciate ligament (ACL) and the menisci. There was a mild cortical irregularity and subchondral marrow edema in the patellofemoral joint (Figs. 2 and 3).

Features of the lesion were suggestive of a hemangioma or a venous malformation. A focussed USG screening was done, in which the anechoic spaces in Hoffa's fat pad showed vascularity on augmentation, which inclined more toward a venous malformation (Figs. 4 and 5) Other differentials considered were pigmented villonodular synovitis [4].

An excision biopsy was planned. Arthroscopic excision was not considered due to the previous surgical scarring at the same site. A radiology opinion was sought regarding the role of sclerotherapy in managing the lesion; however, since no feeder's



Figure 3: Magnetic resonance imaging.



Figure 4: Focused ultrasound screening with Doppler.

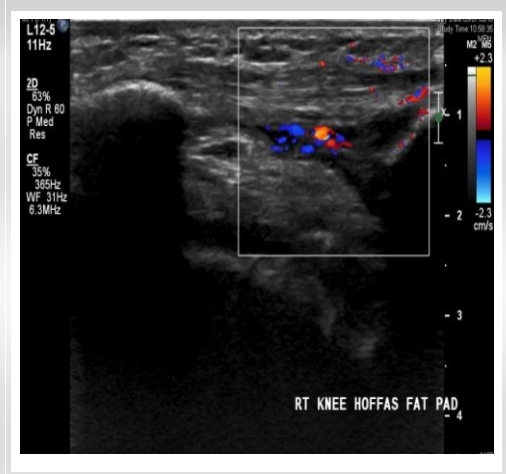


Figure 5: Focused ultrasound screening with Doppler.

vessels were found, it was not feasible. Hence, an arthrotomy and excision of the lesion were planned.

The knee was approached through an anterior midline incision over the previous surgical scar and a medial parapatellar arthrotomy was carried out. The hemangioma was identified as a brownish tissue filling the anteromedial compartment anterior to the ACL, Hoffa's fat pad, lateral gutter, and intermeniscal region. The pathological tissue was excised and bleeding points were cauterized after releasing the tourniquet. The knee was splinted with a posterior

above knee slab (Fig. 6).

Postoperatively, continuous passive mobilization was initiated, starting at 30°, and gradually increasing over the following 3 weeks. Three months postoperatively, the child had a range of motion of 10°–135° and grade 4 quadriceps power. The wounds healed well without complications.

Discussion

Synovial hemangioma was first described by Bouchut [5] in 1856 and it commonly affects the knee joint and involves the wrist, elbow, temporomandibular joint, and synovium of tendon sheaths less often [1]. They often present before the age



Figure 6: Intraoperative picture with arrow showing anterior cruciate ligament.

of 16 due to hemorrhage into the joint from trivial trauma or spontaneously [3,6].

Clinical presentation is mainly pain, swelling, and recurrent hemarthrosis. They can also present with mechanical symptoms of the knee mimicking internal derangement of the knee joint [7].

It is classified based on the size and type of vessel that is seen mainly in the lesion. They are classified as cavernous which has predominantly large vessels (50%), capillary (25%), venous (5%), and arteriovenous (20%) [6,7]. They are also classified as intraarticular, juxta-articular, and intermediate based on their

Declaration of patient consent: The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given the consent for his/ her images and other clinical information to be reported in the journal. The patient understands that his/ her names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Conflict of interest: Nil **Source of support:** None

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anatomical location [3,7].

Differential diagnosis includes pigmented villonodular synovitis, synovial chondromatosis, and osteochondromatosis [6].

It is an easily missed condition [8] that can lead to permanent joint damage if left undiagnosed for a prolonged period. Every child presenting with knee pain or fullness will benefit from further evaluation with an MRI which is the investigation of choice [6]. An ultrasonogram would provide additional information in case of a venous malformation [6].

Recurrences can occur even with an apparent complete resection [9]. Even though arthroscopic resection has been described, it is reserved for patients with bleeding disorders. Sclerosing agents are damaging to articular cartilage [10].

Conclusion

Open resection is the management of choice in intraarticular hemangiomas, as it allows adequate visualization to enable thorough excision. Sclerotherapy is not an advisable treatment option.

Clinical Message

Synovial hemangioma is a rare benign condition of adolescent age that needs to be promptly diagnosed and treated with open resection.

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