Author's response to reviews

Title: Case Report: A Rare Lesion Around The Knee Synovial Hemangiohamartomas

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Case Report: A Rare Lesion Around The Knee “Synovial Hemangiohamartomas”

Abstract

Introduction: We present a case of juxtaarticular hemangiohamartoma with a synovial extension associated with hemorrhagic synovitis and recurrent spontaneous haemarthroses.

Case Presentation: A 21 years old Caucasian girl was admitted to our hospital complaining of pain and swelling at her knee for six months. In the magnetic resonance imaging (MRI), T2 and fat suppressed images revealed mass with high signal intensity just posterior to the patellar tendon. We performed an excisional biopsy of the mass through the anterior longitudinal incision. Excised material included arterial and venous vascular structures which were found to be spread among the fat, connective and peripheral nerve tissues microscopically.

Conclusion: Although hemangiohamartomas are not true neoplasms, they may cause knee pain, swelling and hemorrhage that warrant surgical resection. This lesion, although rare should be considered as a differential diagnosis especially in teenagers and young adults.

Key Words: Synovial Hemangiohamartomas, Knee

Introduction

Synovial and subsynovial hemangiomas are very rare benign lesions that are classified by pathologists as hemangiohamartomas when admixed with fat, connective tissue and peripheral nerve structures (1, 2).

The predominant type of vascular channel during pathological examination reveals the lesion as cavernous, capillary, arteriovenous or venous.

Recurrent nontraumatic hemorrhage with pain and palpable mass are amongst the common findings experienced by the patient (3). MRI is usually the diagnostic tool for detection of the extension and characteristics of the lesion (4, 5).

Complete open excision decreases the potential for local recurrence but localized lesions can be treated arthroscopically (6, 7, 8). In this article, we present a case of juxtaarticular hemangiohamartoma with a synovial extension associated with haemorrhagic synovitis and recurrent spontaneous haemarthroses.

Case Presentation

A 21 years old Caucasian girl was admitted to our hospital complaining of pain and swelling at her knee for six months. Her pain and swelling were especially aggravated with physical activities.
On her physical examination she had a mild quadriceps atrophy and pain during terminal flexion of her knee with mild swelling just beneath the patellar tendon. Her conventional radiographies displayed no abnormalities. In the magnetic resonance imaging T2 and fat suppressed images revealed a mass with a high signal intensity just posterior to the patellar tendon (Figure 1). Her laboratory tests including coagulation parameters were all within normal values.

The radiologists included the synovial sarcoma in differential diagnosis and we performed an excisional biopsy of the mass through the anterior longitudinal incision. We decided to do open surgery because of the unknown characteristic of the lesion. The lesion which measured 3x2 cm dimension was excised fully.

The excised material was soft and encapsulated macroscopically. Microscopically, arterial and venous vascular structures were found to be spread among the fat, connective and peripheral nerve tissues (Figure 2). The patient was well 6 months after the operation with no pain and swelling at her knee. She had also full range of knee motion.

Discussion

Synovial hemangiomas and hemangiohamartomas are two entities that are both rare and similar in nature. Hemangiohamartomas involve the synovia with the fat and connective tissue. In addition to pain, swelling and palpable mass, it may cause haemarthoses (9).

The differential diagnosis for hemangiohamartoma should include pigmented villonodular synovitis, synovial sarcoma, rheumatoid arthritis, juvenile chronic arthritis, hemophilic arthropathy and lipoma arborences.

Hemangiohamartoma was first described by Bovanoilin 1856 and less than 200 cases have been reported up to date.

Arthroscopic excision in cases of focal or pediculated and appropriate size lesions may be an alternative to open surgical resection. In cases of pure synovial hemangioma selective embolization of feeder vessels might also be an alternative to surgery (10, 11, 12).

Plain radiographs are usually of poor diagnostic value. In less than 5% of patients periosteal reaction, cortical destruction, discrepancy in leg length or even arthropathy simulating hemophilia could be seen (11, 12).

Magnetic resonance imaging is the most useful diagnostic tool especially on T2 weighed images, the lesion exhibits a high signal due to blood in vascular spaces (13).
Conclusion

Although hemangiohamartomas are not true neoplasms, they may cause knee pain, swelling and hemarthrosis that warrant surgical resection. This lesion, although rare should be considered as a differential diagnosis especially in teenagers and young adults.

Consent

Written informed consent was obtained from the patient for publication of this manuscript and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

Competing Interests

The authors declare that they have no competing interests.

Acknowledgement

No funding has been received for the study.

Contribution Section

SS, MSS and EU contributed to conception and design, carried out the literature research, manuscript preparation and manuscript review. HC was involved with the case and writing of the manuscript and the general management of the patient. KO revised the manuscript for important intellectual content.

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Figure Legends

Figure 1: T2 weighed axial view of the knee , displaying the lesion with bright signal under the patellar tendon

Figure 2: Arterial and venous vascular structures between fat, connective and peripheric nerve sections ( H&E, x50 magnification)

Figure 3a, 3b: Vascular regions that form clefts in canalicular pattern ( H&E X200 ve X50)