



International Journal of Medical Research & Health Sciences

www.ijmrhs.com

Volume 3 Issue 2 (April - Jun)

Coden: IJMRHS

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ISSN: 2319-5886

Received: 4th Dec 2013

Revised: 4th Jan 2014

Accepted: 12th Jan 2014

Case report

SYNOVIAL HEMANGIOMA OF THE KNEE JOINT: A RARE CASE REPORT

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ABSTRACT

Synovial hemangioma is a rare entity characterized by the presence of normal or abnormal blood vessels, arising from the synovial lining of the tendon sheath or joint space. Nonspecific symptoms and lack of awareness of the condition often leads to delay in diagnosis. We report a case of 25 year old young female presented with recurrent swelling and pain over the left knee joint since 15days. Repeated aspiration yielded only blood. Arthrotomy with synovectomy was done. Histopathology of the resected specimen showed a synovial hemangioma.

Keywords: Synovium, Hemangioma, Knee, Joint

INTRODUCTION

Synovial hemangiomas (SH) though recognized entity, is rare. There are only 250 cases reported in the English literature till date.¹ They have essentially resulted from the abnormal vessels located in the articular capsule or synovial membrane.² Patients usually present with recurrent hemarthrosis, and nonspecific symptoms like swelling or pain in the joint.^{3, 4} As a result, there is always an element of delay in diagnosis. More so even X ray findings are nonspecific.⁵ Though MRI is the diagnostic modality, histopathological examination is mandatory for the definitive diagnosis.⁶ Even at histopathology, synovial hemangioma needs to be differentiated from hemophilic, post traumatic arthropathy nonspecific synovitis with congestion, granulation tissue formation and mass lesions especially pigmented villonodular tenosynovitis also needs to be differentiated. The risk of recurrence following surgery is high.⁷ Early institution of therapy is must to prevent joint damage and hence reduce morbidity.

CASE REPORT

25 years old young female presented in the orthopaedics department of Adichunchanagiri

Institute of Medical Sciences, with swelling and pain over the left knee joint since 15 days. There was history of trauma 10 years back. On examination a cystic swelling was noted in the left knee joint measuring 10 x 5 cm. The swelling was non tender and immobile. No scars, abrasions or laceration was noted on the skin. No knee joint deformity was seen. Range of movement was restricted in flexion and extension. There was a slight limp on walking. Gross fluctuation test was positive. Repeated aspiration yielded only blood. X ray demonstrated nonspecific findings without any bony erosion. A clinical diagnosis of hemarthrosis was made. On exploration blood clot was noted with lateral miniscal thickening. Synovial and miniscal tissue were sent for histopathological examination.

Specimen consisted of two irregular tissue bits larger measuring 10 cms across and smaller measuring 2.5 cms across.

Histopathologically sections studied show vascular channels of venous caliber (Figure 1 A) along with sinusoidal blood vessels (Figure 1 B) which were filled with RBC'S and at places showing herniation

and thrombus formation (Figure 1 C and D). The sinusoidal vessels were seen intercommunicating with each other. The surrounding stroma was loose edematous, at places myxoid and showed many histiocytes. The lesion was confined by synovial lining. Final diagnosis of Synovial hemangioma was made.

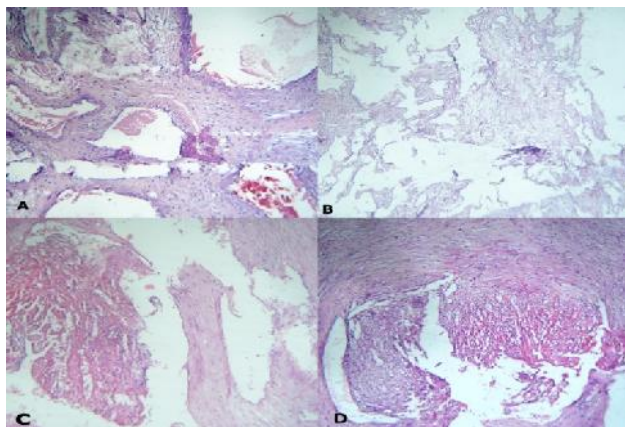


Fig1A: Photomicrograph showing vascular channels of venous caliber. (H & E, × 400), 1B: Photomicrograph showing sinusoidal blood vessels. (H & E, × 100), 1C: Photomicrograph showing herniation. (H & E, × 400), 1D: Photomicrograph show thrombus formation. (H & E, × 400)

DISCUSSION

The term hemangioma is used to embrace a benign reactive process comprising of normal or abnormal appearing vessels. Nonetheless, it has to be recognized that most of these lesions are rather true malformations or hamartomas. These taxonomic distributions have been made even more difficult by the fact that clinicians, radiologist and pathologist use different classifications relying on a malange of parameters. From a pathologist's point of view, the nomenclature relies on the type of blood vessels present.⁸

Hemangioma of the synovium is a rare entity. Theoretically, it may arise from the synovial lining of the tendon sheath or in the joint space. Those arising from the tendon sheath are not always confined by the synovium, hence some authors argue against calling these as true hemangiomas. Hemangiomas arising in joint space are persistently lined by synovial membrane and are true synovial hemangiomas (SH).²

SH occur typically in 1st and 2nd decade of life.⁸ Knee joint is invariably the most common joint affected, followed by elbow, hip and rarely

temporomandibular joint.⁹ Classical symptoms include recurrent episodes of pain, swelling and joint effusion. These symptoms mimic synovitis or medical miniscal injury as in our case. Subsequent to this there is an element of delay in diagnosis. Sequels to it are the chances of degenerative changes setting up due to recurrent episodes of bleeding, leading to permanent deformity and thus considerable morbidity. At times, patient presents with recurrent hemorrhagic joint effusions.³

History of trauma is rarely elicited. On examination as in hemangiomas of another site, a compressible spongy mass which decrease in size with elevation can be palpated in the joint. X ray findings are nonspecific and do not lead to a specific diagnosis.⁵ However, MRI has been found to be a precise diagnostic tool for evaluating hemangiomas, although the findings are usually confounded in chronic cases by the findings in hemophilic arthropathy. MRI holds priority not only in suggesting the diagnosis but also in planning, management by delineating the size, extension and relation to surrounding structures. However no diagnostic modality other than histopathologic examination holds true in diagnosing a SH.⁹

Histologically, these lesions are of cavernous type composed of venous caliber blood vessels separated by fibromyxoid hyalinised stroma. The presence of synovial lining above the lesion confers the lesion as SH. The lesion, however, needs to be differentiated from hemophilic and post traumatic arthropathy. Clinical history and coagulation profile aids in ruling out hemophilic arthropathy. Nonspecific synovitis with congestion, granulation tissue formation and mass lesions, especially pigmented villonodular tenosynovitis also needs to be differentiated.¹⁰ Recognizing the fact that underlying vessels are far more numerous for the area in question helps to make an accurate diagnosis.⁸

Controversy exists over the taxonomy and pathogenesis of hemangioma which resembles the normal vessels to such an extent that it is difficult to classify them as malformations, tumors or hamartomas. Whatever may be the pathogenesis, treatment depends on the configuration as to focal or diffuse. Focal lesions require simple extirpation. Diffuse lesions are difficult to eradicate completely and may require small doses of radiation.⁸

CONCLUSION

Because of the implications of complications due to delayed diagnosis, SH is an important consideration in the differential diagnosis of recurrent hemorrhagic joint effusion with or without a history of trauma.

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