
Synovial hemangioma of the ankle joint: A rare and unusual encounter

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Abstract

Synovial hemangioma is a rare, benign disorder of the synovium that have been reported to manifest within joints, tendon sheaths, and bursae. The rarity of the condition and its nonspecific symptomatology makes the diagnosis challenging. Awareness of this entity would help to initiate early treatment thereby avoiding permanent joint damage. We report a case of synovial hemangioma of the ankle joint which is an extremely rare location for such a lesion.

Keywords: Hemangioma, synovium, ankle, adult

1. Introduction

Hemangiomas are common benign lesions of infancy and childhood, mostly occurring in head-neck region and sometimes in the trunk and extremities. It is a rare lesion of an adult, even more so in a location like synovium. Synovial hemangiomas are usually mono-articular mostly affecting knee, less commonly elbow, hip and temporomandibular joint.[1] Though various modalities of investigation are available, histopathology remains the gold standard for diagnosis.[2] Our case is interesting by virtue of its extremely rare location in the ankle joint and occurrence in an adult patient.

2. Case report

A 47 years old male presented with swelling and pain in the lateral aspect of right ankle. He complained of such features for last one year which was not preceded by trauma. Examination revealed a non-tender, softcystic, ill-defined swelling posterior to the lateral malleolus measuring 5x4cm. The manual examination of the foot and ankle revealed a full range of motion within the subtalar, tarsometatarsal,

and ankle joint. Radiological investigations revealed no bony abnormality. Provisional diagnosis of bursal cyst was given. Fine needle aspiration was done which yielded blood-mixed aspirate. Microscopically cytomorphological features comprised of blood elements along with few endothelial cells. Open surgical excision of the mass was done. Grossly, the specimen appeared as brownish soft tissue mass, measuring 3.5x3x1 cm. Cut surface was brownish with whitish solid glistening areas [Figure 1]. Routine histopathological processing was done followed by microscopy. The hematoxylin and eosin stained sections showed histology of synovial tissue comprising of a lesion having admixture of vascular spaces of varying sizes [Figure 2] and capillary-sized vessels mostly arranged in lobular pattern at some foci [Figure 3]. Thus the histopathological diagnosis of synovial hemangioma was confirmed.

Figure 1: Gross picture showing brownish soft tissue mass



Figure 2: Photomicrograph showing synovial tissue with adjacent vascular spaces (H&E x100)

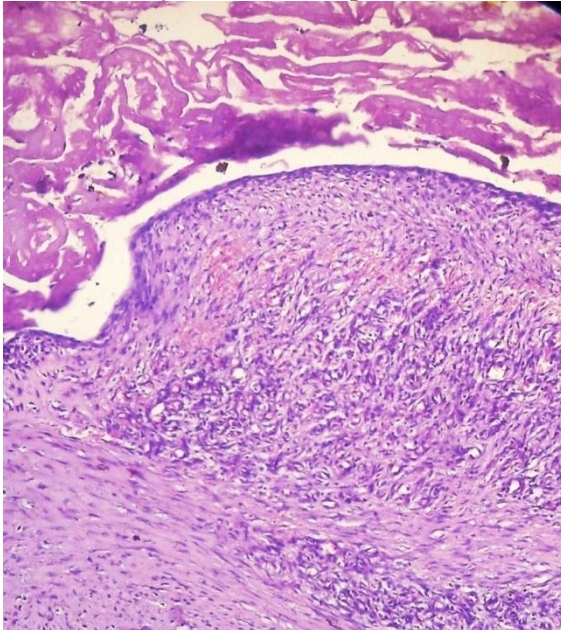
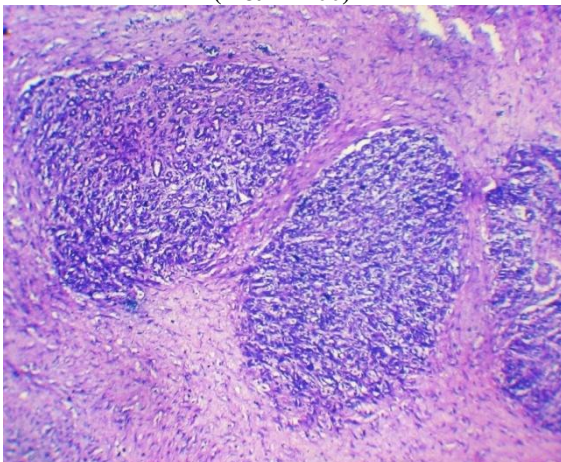


Figure 3: Photomicrograph showing lobular arrangement of capillary-sized vascular spaces (H&E x100)



3. Discussion

Synovial hemangiomas are defined as benign vascular lesions arising from any structure lined by synovium including the intra-articular region, bursal spaces and tendon sheaths. Anatomically it is described as synovial, juxta-articular and intermediate. Morphologically they may be pedunculated or diffuse. Histopathologically, they are classified as capillary, cavernous, or mixed.[3] Till now, fewer than 250 cases have been reported since the first case that was reported by Bouchut in 1856.[1] They are rare causes of recurrent, non-specific joint complaints, most commonly affecting the knee joint. There are very few published cases of synovial hemangioma occurring in the ankle joint.[4]

Diagnosis is frequently delayed for several years due absence of specific signs or symptoms.[5] The presentation is insidious with painful swelling, usually lacking any history of trauma. This clinical condition might mimic other arthropathies, synovial osteochondromatosis, juxta-articular myxoma, synovial sarcoma or lipoma aborescens.[6] Episodes of intra-articular hemorrhage may simulate hemophilic arthropathy, differentiated by normal coagulation parameters.[7]

Conventional radiographs have poor diagnostic value but may show capsular thickening, vague soft tissue density, phleboliths and rarely bony erosion.[8] The preferred and probably the most accurate modality for assessing these lesions is MRI. T1- weighted images demonstrate a poorly marginated mass of intermediate signal intensity that appears hyperintense on T2-weighted images correlating with stagnant blood in vascular spaces. The lesion may show heterogeneous enhancement following intravenous gadolinium administration.[9] Associated arteriovenous malformations or feeder vessels may be identified on angiography.[10] However no radiological investigation is confirmatory.

The final diagnosis is made only on histopathology which remains the gold standard. Differential diagnosis includes pigmented villonodular synovitis (PVNS), non-specific synovitis and organizing hemorrhage. Histopathology of PVNS comprises of sheet like proliferation of histiocytes (with or without cytoplasmic hemosiderin) and multinucleated giant cells, a pattern not found in synovial hemangioma. Non-specific synovitis accentuates the normal pattern of native vasculature. Reactive vessels are sometimes surrounded by a perivascular myxoid change, a finding not seen in true synovial hemangiomas. Scattered dilated spaces may be found in an organizing hemorrhage but the

finding of large, cavernous, endothelial-lined spaces is interpreted as evidence of a hemangioma.[3]

Management depends on the anatomical distribution and extent of the lesion. Arthroscopic removal is the preferred choice if the hemangioma is intra-articular, pedunculated, localized and manageable in size. Arthroscopic ablation using laser or sclerosing agents have been reported.[6] Open local surgical resection with partial or total synovectomy is indicated for large or diffuse lesions that are difficult to excise arthroscopically. Pre-operative embolization can help in managing diffuse lesions that demonstrate large arterial feeding vessels on angiography. Arthroplasty is the treatment of choice in cases of high-grade degeneration of the chondral tissues.[5]

In spite of its rarity, synovial hemangioma should be considered as a differential diagnosis in patients presenting with non-traumatic recurrent painful swelling of the ankle. Early treatment should be warranted because of the risk of arthropathy. Hence there is a need for greater awareness of this lesion.

Conflict of interest

The authors declare to have no conflict of interest.

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