

Arthroscopic resection of localized pigmented villonodular synovitis of the knee

Raju Vaishya^{a,*}, Sheikh Irfan^b

ABSTRACT

We report a rare case of localized pigmented villonodular synovitis (xanthoma) of the knee. Awareness about this condition is crucial to its diagnosis. Arthroscopic complete resection of this benign tumor was successfully done. Technical tips of arthroscopic surgery are described herewith.

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Keywords: Xanthoma, Pigmented villonodular synovitis, Intra-articular knee swelling, PVNS

INTRODUCTION

Localized pigmented villonodular synovitis (PVNS) is a rare, benign, proliferative disease of the synovial membrane of joints & can mimic other pathology like loose body, meniscal tear & soft tissue sarcomas etc. Diagnosis of these lesions can be difficult clinically & magnetic resonance imaging may be helpful. Surgical resection of the tumor is the treatment of choice. Arthroscopic resection is superior to an open procedure & has distinct advantages.

CASE REPORT

A 32-year-old male presented with complaints of intermittent locking of right knee & discomfort whilst walking for last 1 year. He also observed swelling in the same knee since 3 months. The symptoms were progressively increasing in nature. He had no history of trauma, fever, rigors and chills, weight loss or fatigue. On examination a swelling was noticed in the antero-medial portion of right knee with dimensions of 2 by 3 cm. The swelling was soft in consistency, nontender, mobile and was coming from

within the joint. All ranges of movements of the knee were within normal limit. The tests for knee stability and menisci were normal. MRI of the right knee revealed an intra-articular focal rounded mass (20 × 15 mm) in anterior knee joint space (Fig. 1). It was anterior to the meniscus and is seen compressing the Hoffa's fat pad on its anterior surface. It displays low to intermediate signal on T2WI, suggestive of localized PVNS.

Arthroscopy of the knee joint was done under tourniquet control, which showed a localized nodular swelling within the joint coming from the anteromedial aspect of the synovial lining, nonadherent to the surrounding soft tissues except at its stalk near the infrapatellar fat pad. It was yellowish brown in colour & soft in consistency (Fig. 2). This localized swelling was excised completely arthroscopically (Fig. 3). The arthroscopy was done using 4 mm, 30° telescope through standard anterolateral portal. Shaving of the lesion was done through anteromedial portal, using 5 mm meniscal power shaver. Suction was used with the shaving & this helped in bringing the tumor to the tip of the shaver & helped in resection.

Histopathological examination revealed focal areas of hemosiderin-laden histiocytes (Fig. 4), foam cells

^aSr Consultant, ^bDNB Student, Department of Orthopaedic Surgery, Indraprastha Apollo Hospitals, New Delhi 110076, India.

*Corresponding author. Tel.: +91 9810123331, email: raju.vaishya@gmail.com

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Fig. 1 MRI scan showing intraarticular lesion in anterior compartment.

containing lipid, and proliferation of multinucleated giant cells and fibroblasts (Fig. 5), consistent with the diagnosis of pigmented villonodular synovitis.

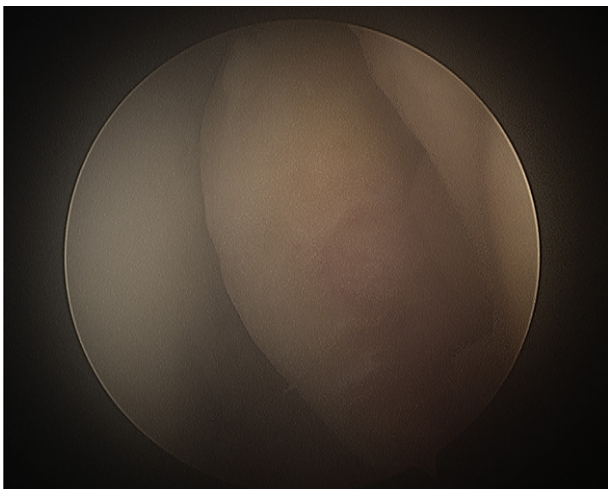


Fig. 2 Arthroscopic picture showing a well defined soft tissue lesion.

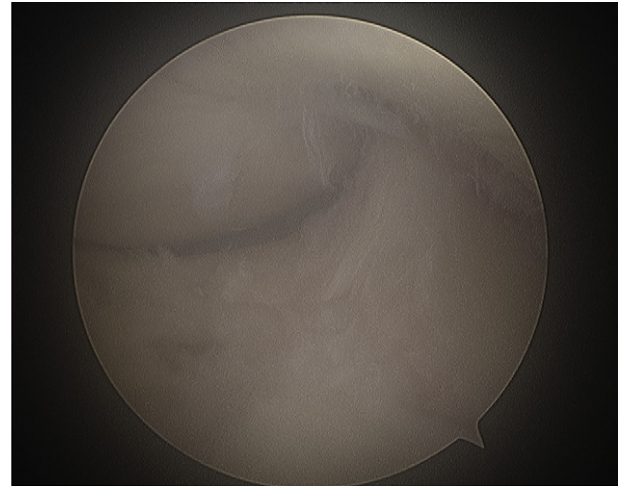


Fig. 3 Arthroscopic picture after complete resection of tumor.

At 6 months follow up there was complete resolution of his symptoms with no sign or symptoms of recurrence of the tumor.

DISCUSSION

Villous, inflammatory nodular neoplasms of the synovial membrane were first described in the 19th century. Because of their uncertain pathogenetic classification, these lesions of the synovial membrane were given various different names, such as xanthomatous giant cell tumor, histiocytic giant cell tumor, xanthoma, benign synovialoma, haemorrhagic villous arthritis and localized pigmented villonodular synovitis (PVNS). The term PVNS was introduced by Jaffe et al¹ in 1941 and subsequently gained general acceptance. Pigmented villonodular synovitis (PVNS) is a synovial

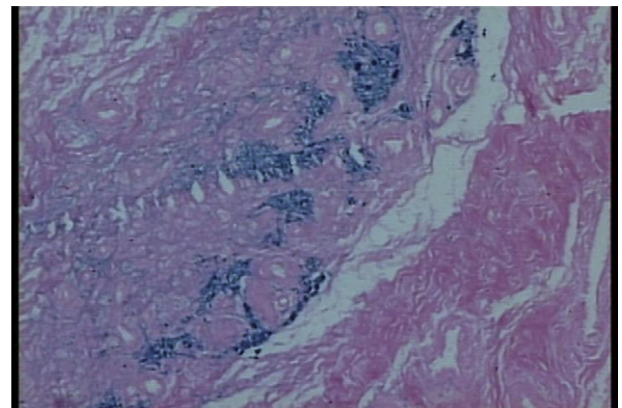


Fig. 4 Histopathological picture showing haemosiderin laden macrophages.

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