

A Rare Case Of Post Traumatic Non Pigmented Villonodular Synovitis

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INTRODUCTION:

Synovial proliferative disorders can often be misdiagnosed due to their non specific symptoms and sometimes misleading imaging findings. We report a case of a 24-year-old who was diagnosed with right anterior cruciate ligament(ACL) and medial meniscus tear preoperatively but instead appeared to have intact menisci with florid synovitis. Histology findings were suggestive of non-pigmented villonodular synovitis(PVNS).

REPORT:

A 24-year-old gentleman who presented with history of pain, swelling and limited range of movement of his right knee following a sports injury in 2015. Clinical examination revealed effusion with tenderness over medial and lateral joint lines, range of movement of 15-110 degrees and a lax ACL. Plain radiographs were unremarkable. MRI indicated an effusion with synovial hypertrophy, ACL and posterior horn of medial meniscus tear. He was submitted to an ACL reconstruction and medial meniscus repair. To our surprise, intraoperatively the knee joint flourished with villi like synovium. Therefore, we performed an arthroscopic synovectomy followed by an ACL reconstruction. Upon diagnostic tour of the knee, both menisci appeared intact.

Histopathological study of the synovial tissue revealed multiple epitheloid cell granulomas with multinucleate giant cells, no areas of caseous necrosis and negative for Ziehl Nielson staining.

CONCLUSION:

Synovial proliferative disease can often be difficult to diagnose due to its lack of specificity in presenting symptoms. Differentials include PVNS, lipoma arborescens and TB or RA synovitis. In this case MRI findings lacked the blooming effect of typical PVNS and was not of fat equivalent signal intensity. Macroscopically the synovium was prolific with coarse villi devoid of iron pigmentation. Histology revealed findings similar to PVNS due to presence of mononuclear giant cell proliferation but lacked hemosiderin stained macrophages. Additionally, negative Ziehl Nielson staining of synovium, argues against TB synovitis. Therefore, histopathology findings favors the diagnosis of non PVNS, a rare condition which microscopically appears similar to PVNS but is devoid of pigmentation. To date there are no reported cases of non PVNS in post traumatic cases. Hence, non PVNS should be considered as a differential diagnosis in the spectrum of synovial proliferative disorders.

REFERENCES:

1. Tosun, H.B., et al., *A rare case of extensive diffuse nonpigmented villonodular synovitis as a cause of total knee arthroplasty failure*. Int J Surg Case Rep, 2014. 5(7): p. 419-23

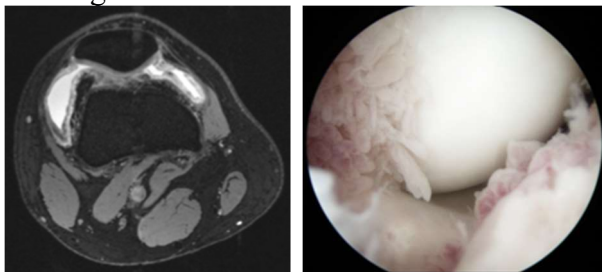


Figure-1: MRI image of the knee showing areas of synovial hypertrophy and arthroscopic images of villi like synovial proliferation.