



History: 80 year old woman with known severe bilateral osteoarthritis. Recent aspiration of left knee yielded a large amount of bloody fluid.



Lateral radiographs at a 9 year time interval



Lateral radiographs at a 9 year time interval

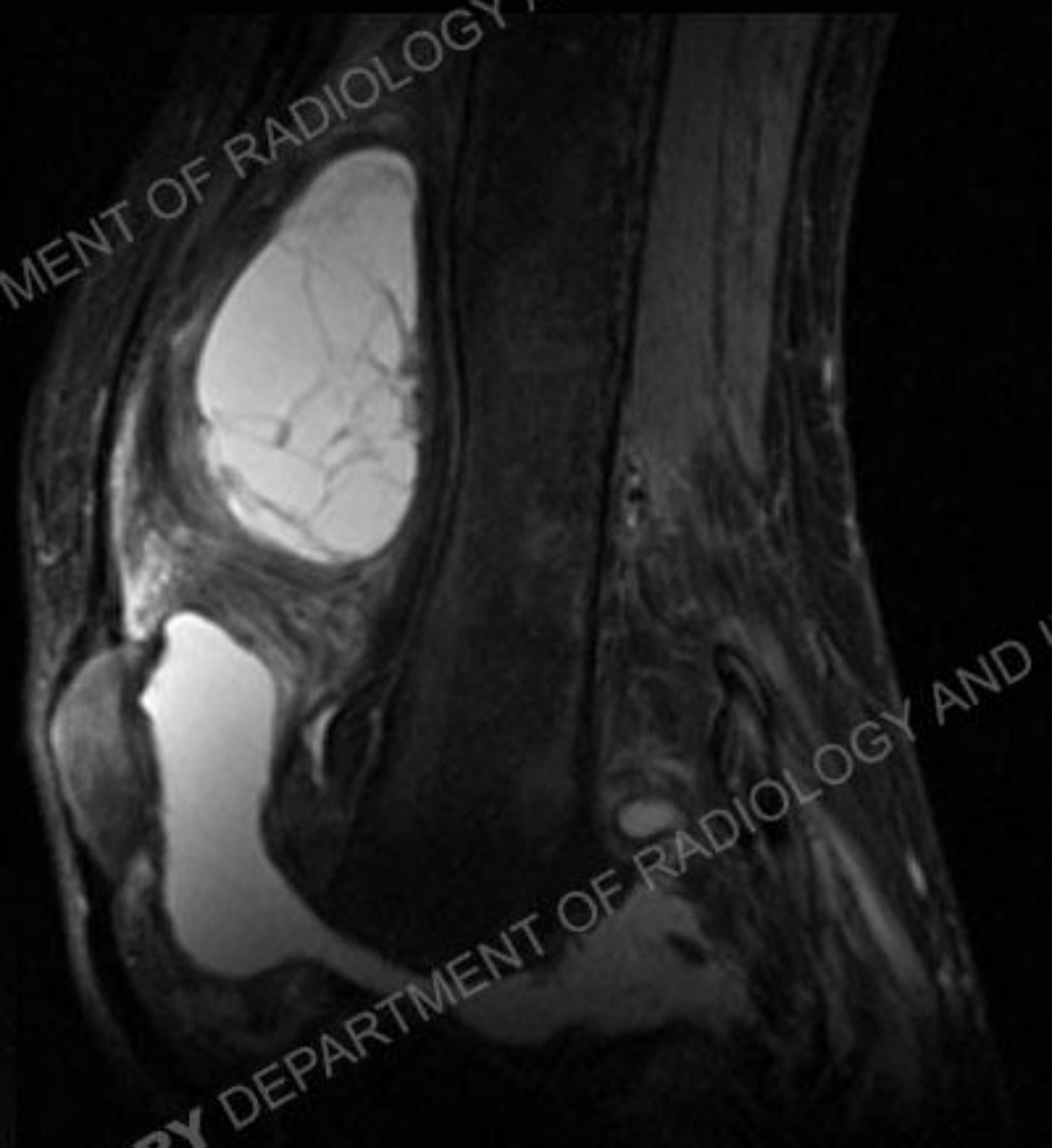


Sagittal IR left knee

Sagittal PD left knee



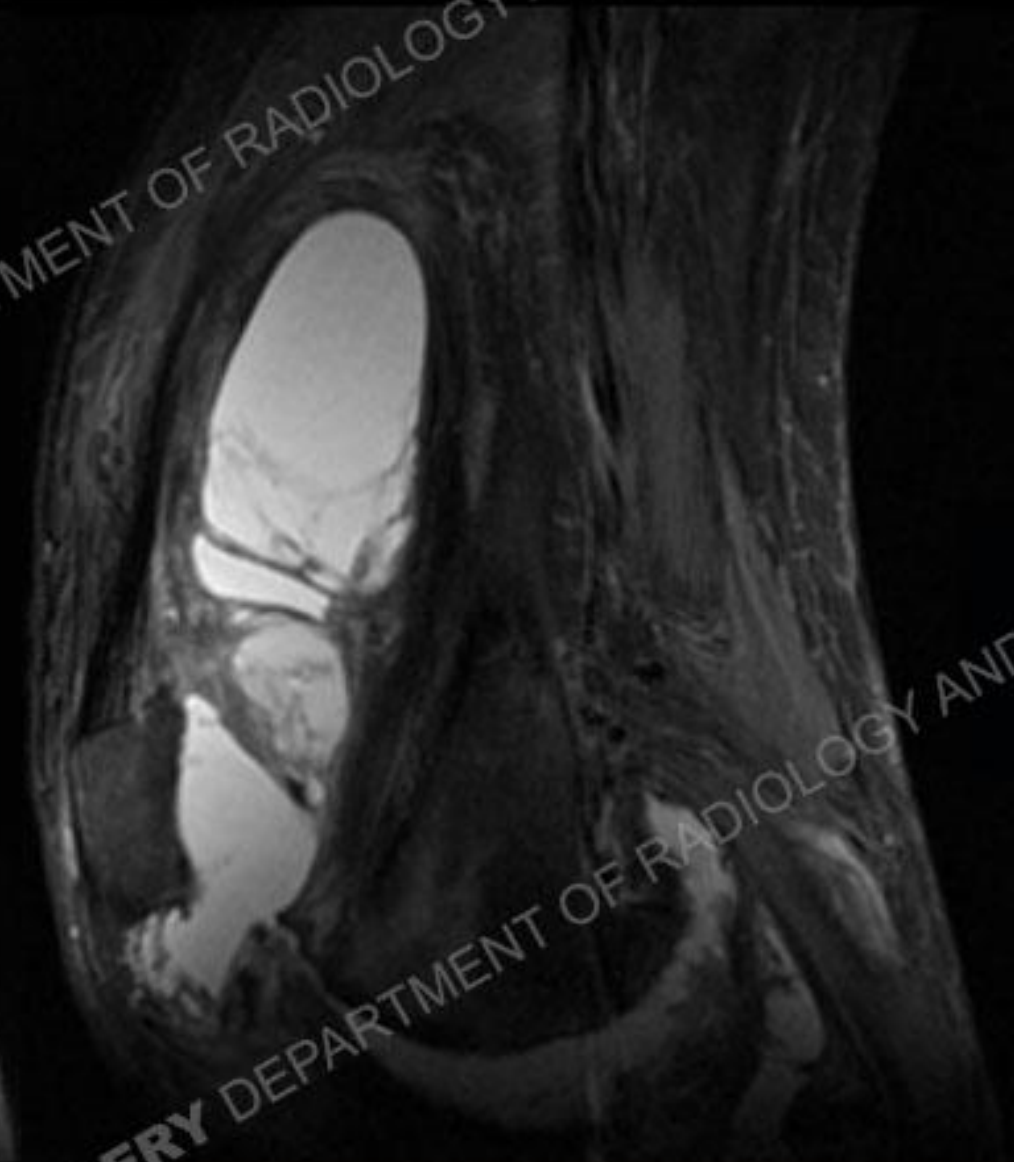
Sagittal PD left knee



Sagittal IR left knee



Sagittal PD left knee



Sagittal IR left knee

Findings

As stated in the history, seen is the severe osteoarthritis of both knees. There are very large joint effusions particularly seen in the suprapatellar pouch of both knees with marked enlargement in the 9 year time interval. There is indolent bony remodeling particularly seen of the anterior aspect of the left femur. The MRI shows a markedly thickened band of tissue about the suprapatellar pouch yielding an isolated suprapatellar pouch. A marked degree of thickening is present of the joint capsule/synovial lining. A large joint effusion is present with different signal intensities. Areas of dephasing/blooming phenomenon are present on the gradient echo sequence related to hemosiderin.

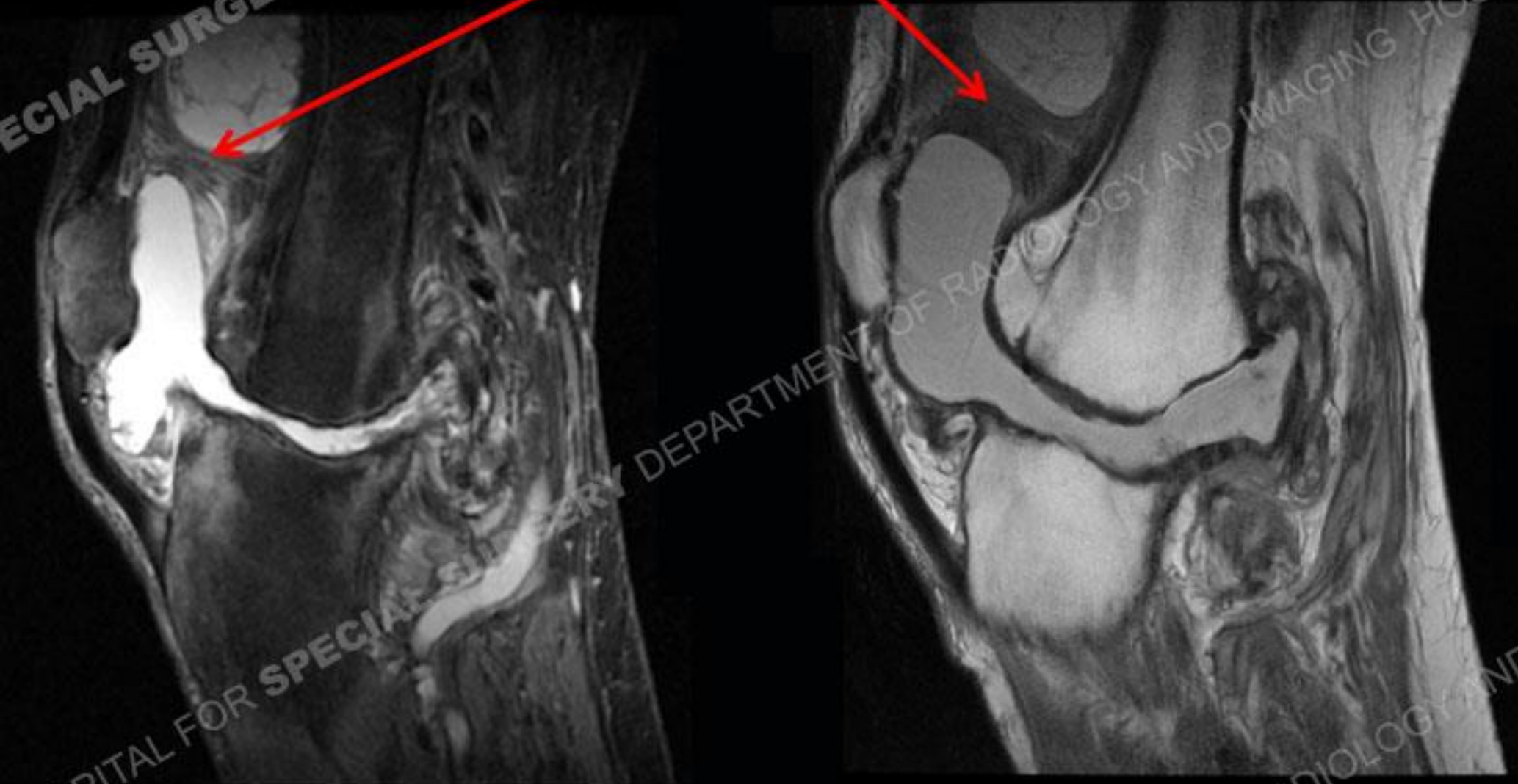


Very large effusion with interval enlargement and preferential involvement of suprapatellar pouch

Indolent bony remodelling



Thick band of tissue about the suprapatellar pouch



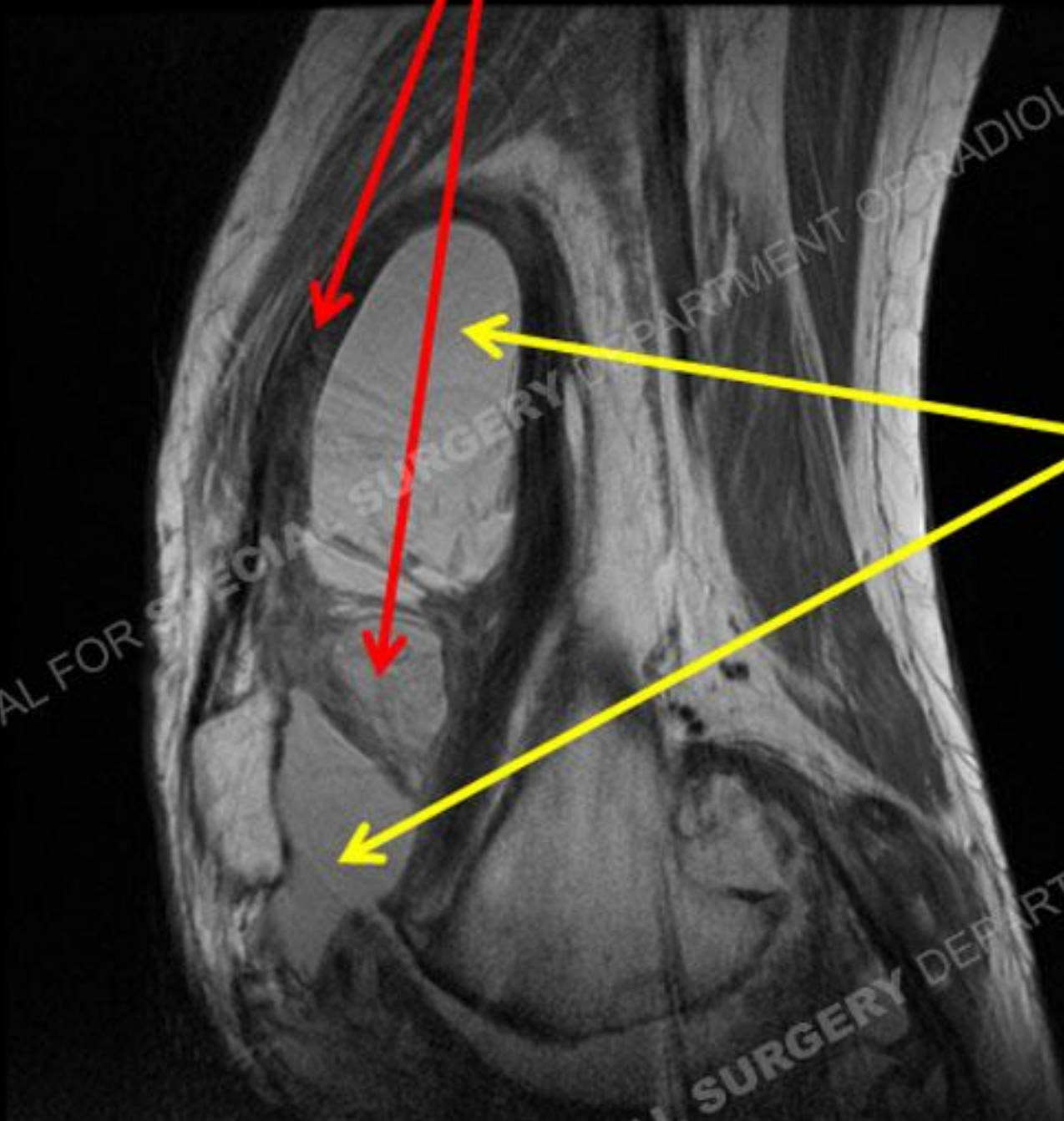
Thickening of joint capsule and synovitis

Dephasing/blooming



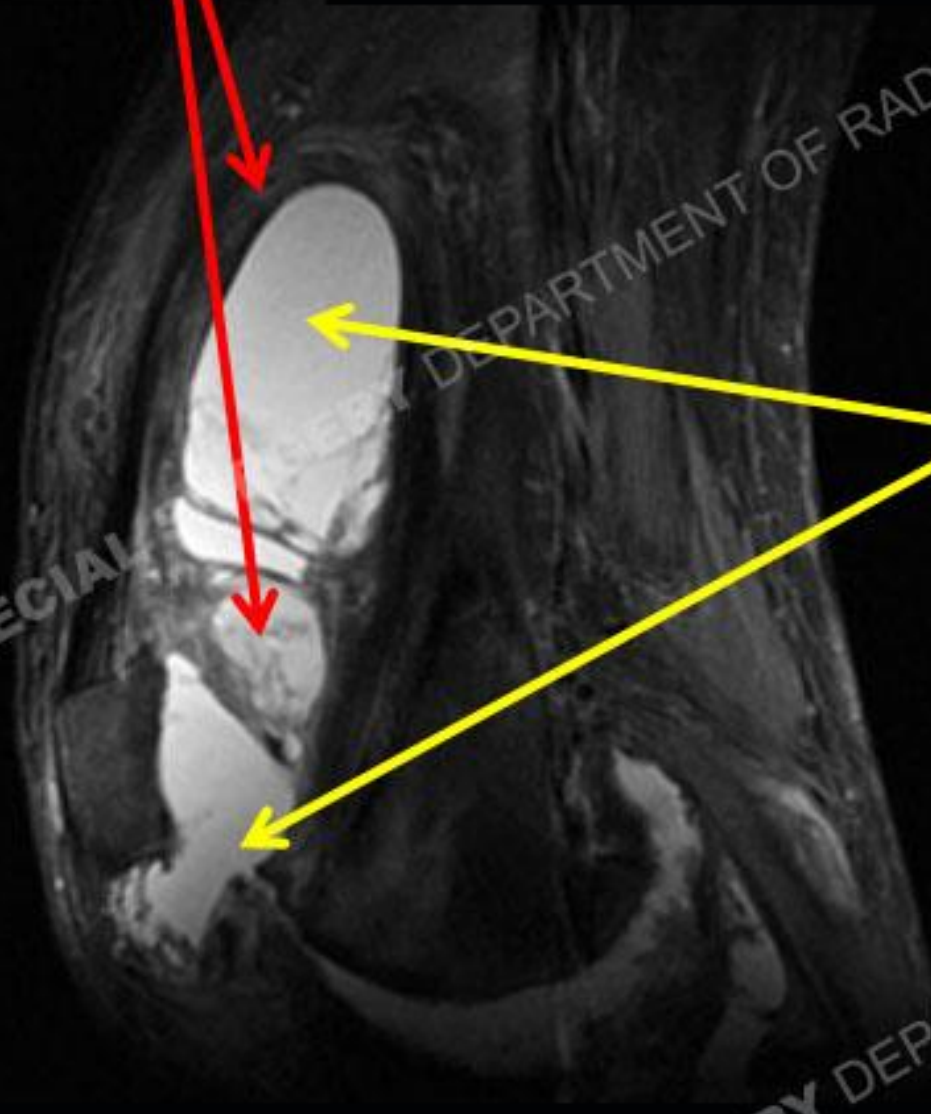
Synovitis and thickening of capsule

Varying signal intensity of Joint effusion



SPECIAL SURGERY DEPARTMENT

Synovitis and thickening of capsule



DEPARTMENT OF RADIOLOGY AND IMAGING HOSPITAL FOR SPECIAL SURGERY

Varying signal intensity of Joint effusion

Diagnosis: Complete Suprapatellar Plica

There are multiple plicae of the knee that represent the remnants of embryologic structures that resorb to a great degree in most individuals. At times these plicae may become enlarged or thickened and become symptomatic. A suprapatellar plica is frequently seen on MR exams but infrequently is symptomatic. When it is symptomatic it may be related to a lack of any perforation or resorption as seen in this patient. In this case the advanced arthritis led to marked thickening of the capsule with an increased joint effusion. The difference in signal of the effusion likely relates to hemorrhagic debris layering in the joint. The imperforate nature of the suprapatellar plica made it such that there was a marked enlargement of the suprapatellar pouch. This long standing process then subsequently yielded the indolent remodeling of the anterior femur.

In this example, aspiration of the knee yielded bloody fluid related to a likely hyperemic and friable synovium. The bloody fluid and enlargement of the suprapatellar pouch can be alarming and question a potential neoplasm but indeed are merely a manifestation of this uncommon etiology.

References

Anatomy and MR imaging appearances of synovial plicae of the knee. García-Valtuille R, Abascal F, Cerezal L, García-Valtuille A, Pereda T, Canga A, Cruz A. Radiographics. 2002 Jul-Aug;22(4):775-84.

