

**(Refer to page 136)**

**Answer: Pigmented villonodular synovitis**

Pigmented villonodular synovitis (PVNS) is an uncommon, benign neoplastic synovial disease that usually present in the 3<sup>rd</sup> to 5<sup>th</sup> decade of life. The most common presenting symptoms are pain and swelling of the affected joint of variable duration. Joint dysfunctions and soft tissue masses are noticed less frequently.

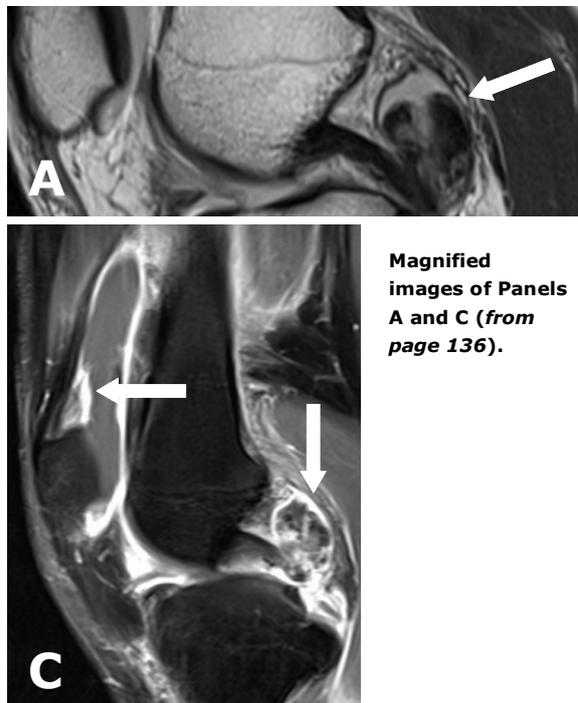
The knee followed by the hip joint are the most common sites. Other joints affected are the ankle, shoulder and elbow in that order. It may involve the joint diffusely or focally. Pathologically, it is characterised by hypertrophic synovium which is villous, nodular or villonodular with haemosiderin deposition in most cases.

Radiographs may be normal in the early stage or reveal evidence of effusion. There is soft tissue swelling, the joint space is preserved and the bone mineralisation is normal. Bone erosions with well-defined sclerotic margins are seen in later stages most commonly with hip joint involvement.

MR imaging is optimal for evaluating the extent of the lesion and shows prominent low signal intensity and blooming artifact in GRE sequence from haemosiderin deposition, which is pathognomonic of this condition. MRI reveals a predominantly hypointense intra-compartmental soft tissue lesion posterior to

the posterior cruciate ligament (**Panel A:** T2 Sag). This hypointense region shows pathognomonic 'blooming' in GRE sequence (**Panel B:** GRE Sag) due to haemosiderin deposition. In post-contrast study there is moderate enhancement of the synovium as well as the peripheral aspect of the soft tissue lesion (**Panel C:** T1FS). A similar smaller lesion is also seen in the suprapatellar region.

The aim of treatment is the restoration of function and prevention of destruction of the articular cartilage. Treatment options include surgical resection, radiation therapy or pharmaceutical ablation. Recurrence after surgery is common particularly in the diffuse form. Total knee replacement may be needed in longstanding disease where there is joint destruction.



**REFERENCES**

**1:** Murphey MD, Rhee JH, Lewis RB, Fanburg-Smith JC, Flemming DJ, Walker EA. Pigmented villonodular synovitis: Radiologi-pathologic correlation. *RadioGraphics* 2008; 28:1493-518.  
**2:** Ottaviani S, Ayral X, Dougadas M, Gossec L. Pigmented villonodular synovitis: A retrospective single-centre study of 122 cases and review of literature. *Semin Arthritis Rheum* 2011; 40:539-46.