Paediatric pigmented villonodular synovitis of the knee

Pigmented villonodular synovitis is a benign soft tissue tumour arising from the synovium, most commonly found in the knee or hip joints. The exact aetiology remains uncertain and it is very rare in children (Baroni et al, 2010). It is characterized by diffuse synovial cell proliferation with the formation of villi or ovoid lobulated nodules that vary in size (Tyler et al, 2006).

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Patients may present with swelling or joint effusion which may be painful and limiting their activities. Differential diagnosis includes juvenile rheumatoid arthritis, haemophilic arthropathy, and other inflammatory and synovial neoplastic processes. Clinical examination and plain radiographs may be normal. However, magnetic resonance imaging is the diagnostic modality of choice (Eckhardt and Hernandez, 2004) (*Figure 1*). Treatment options vary from simple conservative measures to surgical synovectomy and radiation therapy to reduce the high risk of recurrence.

This article presents the magnetic resonance images of a rare case of pigmented villonodular synovitis in a 14-year-old boy who presented with a few months history of knee pain and swelling. Detailed history and clinical examination revealed knee effusion. Plain radiographs were normal, but magnetic resonance imaging revealed the characteristic features of pigmented villonodular synovitis, confirming the diagnosis. **BJHM**

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Figure 1. Magnetic resonance imaging of the left knee in a 14-year-old boy with pigmented villonodular synovitis with characteristic nodular intra-articular masses. The foci correspond to areas of haemosiderin-laden hyperplastic synovium of pigmented villonodular synovitis. **a.** Sagittal and **(b)** axial T2-weighted images with inhomogeneous low and high signal intensity as a result of haemosiderin deposits within the affected tissue (arrow) and a large effusion caused by bleeding commonly seen with pigmented villonodular synovitis.