

### An Unusual Cause of Locking of the Knee: Pedunculated Pigmented Villo-nodular Synovitis

The Editor,

Sir,

Locking of the knee is an acute traumatic extension deficit with an inability to achieve full active or passive extension (1, 2). True locking indicates a mechanical block while pseudo-locking indicates a functional block (1). Most cases of locking of the knee are due to meniscal and ligamentous injuries and loose bodies (1). Pigmented villo-nodular synovitis (PVNS) represents a rare but important cause of locking of the knee (3, 4). Recognition of this cause will lead to early and definitive management.

A 22-year old female was removing her boots when she developed sudden onset pain to her right knee and inability to fully extend the joint. She had no swelling of the knee joint and had no previous trauma to the knee. There was no history of any previous problems with that knee or any other joint. Over the next four weeks, she ambulated with a limp and reported that at times the knee seemed to be able to extend better than other times. She subsequently sought medical attention. On examination, she had an antalgic gait with swelling of the right knee. Her range of motion was 10–110 degrees and she had mild lateral joint line tenderness. She had no ligament laxity and no masses were palpable. Magnetic resonance imaging (MRI) of the knee was reported as normal except for a joint effusion.

Based on the clinical features, arthroscopy of the knee was performed. At surgery, a pedunculated brown lesion was noted in the lateral gutter arising from the synovium. The entire joint was evaluated for additional lesions but this was the only lesion found. It was excised in total and sent for histology. The patient had two months of postoperative physiotherapy after which she had full range of motion of the knee and no residual joint effusion. Histology of the lesion showed nodules of synovial-lined fibro-cartilagenous tissue infiltrated by a chronic inflammatory cell infiltrate composed of sheets of foamy histiocytes, siderocytes and occasional langerhans and cells mixed with mononuclear cells. These histological features are consistent with PVNS.

Pigmented villo-nodular synovitis presents clinically as two different entities, a localized form and a diffuse form (5). In cases in which none of the common causes is identified, it is prudent that the clinician consider other rare but important diseases including PVNS and intra-articular tumours. A diagnosis of PVNS may be suggestive from the history of the patient, as these patients usually have an insidious onset with diffuse discomfort as opposed to focal pain seen in meniscal disorders. The joint effusion is often out of proportion with the degree of discomfort and joint aspirate often reveals a brown coloured to haemorrhagic fluid. A significant number of patients may also have a



Figure: Pigmented villo-nodular synovitis localized in the lateral gutter at arthroscopic surgery.

palpable mass. Plain radiography often offers no diagnostic help and features suggestive of PVNS are seen in less than thirty per cent of patients with PVNS of the knee (6).

Magnetic resonance imaging is the imaging investigation of choice with the classic low signal lesion on both T1 and T2 weighted images. In fat suppressed images, the mass is high signal and may enhance with thallium Tl-201 scintigraphy (7). However, the MRI can be negative as in the present case. Parikh *et al* reported experience of similar circumstances of a negative MRI and positive arthroscopic findings in two cases (8).

Clinicians need to be aware that intra-articular tumours are an important cause of locking of the knee.

**Keywords:** Adolescents, arthroscopy, intra-articular tumour, locking

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