Post-traumatic haemorrhagic synovitis of knee mimicking pigmented villonodular synovitis

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DESCRIPTION

A 23-year-old man who had sustained a minor twisting injury 10 days prior, presented with right knee pain and swelling. There was no history of joint problems, infection or bowel problems, nor was there a family history of arthritis. Physical examination showed a large effusion on the right side with lateral joint line tenderness, from which 70 ml of chocolate-coloured, viscous and heavily blood-stained effusion was aspirated (figure 1). His erythrocyte sedimentation rate and the C reactive protein levels were within normal limits. Rheumatoid factor was negative and results of other blood tests, including a clotting screen, were normal.

Plain anteroposterior and lateral radiographs of the right knee joint revealed no bony abnormality. To evaluate his symptoms further, a MRI scan of the knee was performed. Axial (figure 2A) and sagittal (figure 2B) proton density weighted fast spin echo images showed significant effusion in the joint. In these sequences, no significant hypointense synovium thickening consistent with the accumulation of haemosiderin was seen. Contrast-enhanced sagittal T1-weighted image (figure 3) showed nodular and diffuse type synovial thickening and enhancement in the suprapatellar recess. On T1-weighted images, the effusion consistent with

Figure 2 Axial (A) and sagittal (B) proton density weighed fast spin echo images demonstrate significant effusion in the joint. In these sequences, no significant hypointense synovium thickening consistent with the accumulation of haemosiderin was diagnosed.

haemorrhage in the joint was seen in the intermediate signal intensity. In synovium, there were not any no-signal areas consistent with the accumulation of haemosiderin. The diagnosis was made as a

Figure 1 Shows chocolate-coloured and viscous aspirates in fine-needle aspiration from the right knee joint.

Figure 3 Postcontrast sagittal T1-weighted image shows nodular (arrow) and diffuse type synovial thickening and enhancement in the suprapatellar recess. The effusion consistent with haemorrhage in the joint is present in the intermediate signal intensity. In suprapatellar recess, T1 hypointense linear line of joint capsule (arrow head) is pointed out. In synovium, there were not any no-signal areas consistent with the accumulation of haemosiderin.

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post-traumatic haemorrhagic synovitis. The lesion was excised arthroscopically. Histopathological examination confirmed post-traumatic haemorrhagic synovitis. Postoperatively, the patient experienced complete resolution of his right knee pain with physiotherapy.

Post-traumatic synovitis is a lesion, especially occurs after sport injuries, which presents with effusion and synovial thickening associated with haemorrhage. Synovitis may be discreet and present as a mass.¹ Haemorrhagic forms may be mixed with pigmented villonodular synovitis (PVNS). However, clinical history of a trauma, no apparent deposition of haemosiderin in synovium and intact structure of surrounding bones are the symptoms that may help to differentiate, but not exclude, post-traumatic synovitis from PVNS.² Post-traumatic synovitis may develop not only after the acute traumas, but also after the chronic frictional traumas (eg, iliotibial band syndrome).¹

Learning points

- ▶ Post-traumatic haemorrhagic synovitis should be considered as part of a differential diagnosis of knee haemarthrosis, especially in teenagers and young adults.
- ▶ One should always be aware that in young adults the first complain for any tumour or tumour-like condition, like pigmented villonodular synovitis, may be related to a minor trauma.
- ▶ MRI is usually a valuable diagnostic tool for the detection of the extent and characteristics of the lesion.

Competing interests None.

Patient consent Obtained.

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