Localized pigmented villonodular synovitis in the knee of a young girl diagnosed by Ultrasound

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ABSTRACT
A young girl with a swollen knee was examined and proved to be a case of localized pigmented villonodular synovitis of the knee. Ultrasound showed a mass in the suprapatellar bursa. The synovium was seen thickened and there was a separate mass in the shape of a lozenge.

Keywords: Pigmented villonodular synovitis, knee ultrasound

Discussion. Ultrasound of joints has proved excellent imaging modality which allowed a visualization of the synovial process which revealed synovial thickening, pedunculated nodules and effusion.

A few cases of adolescents are on record. The possible youngest patient published was a four-year-old boy. The knee is the most frequent joint affected, but any synovial joint can be involved.

Synovial lesions are either localized or diffuse. The localized form usually involves the small joints of the hand and is labelled nodular synovitis. Diffuse type being the most common within large joints. The present case represents a pedunculated type in a major joint. The pathogenesis of the condition is still unresolved and suggested hypotheses include inflammation, trauma, local disturbance in the metabolism of lipids, and a neoplastic process.

In the past, diagnosis was only possible at a stage of development of the condition, i.e., erosive osseous changes were discernible on films. Prior to US the ability to image synovial processes was limited and only the immediate post-operative phase of a bone scan was able to show a synovial reaction. Arthrography only outlines surface contours. Induced imaging of cartilage and synovium in computerized tomography (CT) has too low a contrast resolution for visualization of the synovium. Angiography is an invasive procedure which shows a synovial blush, the same as the much less invasive three-phase bone scan will show. Such time-consuming, expensive investigations are not required.
Localized pigmented villonodular synovitis ... *Hulailah*

**Conclusion.** In conclusion, the use of ultrasound prior to synovial fluid aspiration and surgery, appears to allow early diagnosis of this rare condition, characterized by lack of both specific clinical signs and conventional radiological findings.

**References**


**Figure 1** - Ultrasound left knee, transverse suprapatellar area. Effusion in the suprapatellar bursa. The synovial lining is thickened. A loom-shaped structure of synovial echogenic cyst is seen originating from posterior aspects of the synovia.

becomes more widespread and less expensive, US should be the first choice of examination performed to evaluate enlarged joint.