

PİGMENTE VİLLONODÜLER SİNOVİT : OLGU SUNUMU

PIGMENTED VILLONODULAR SYNOVITIS : A CASE REPORT

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Özet

Pigmente villonodüler sinovit sinovianın nadir primer bir hastalığı olup, klinik ve laboratuvar çalışmaları tanı koydurucu değildir. Ultrasonografinin kontrast rezolüsyonunun yüksek ve uygulanımının kolay olması, manyetik rezonans görüntülemenin üç planda görüntüleme kapasitesi ve yüksek kontrast rezolüsyonunun olması nedeniyle lezyonu, lezyonun yayılımı ve çevre dokularla ilişkisi değerlendirilebilir.

Anahtar kelimeler : *Pigmente villonodüler sinovit, Ultrasonografi, Manyetik rezonans görüntüleme.*

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Summary

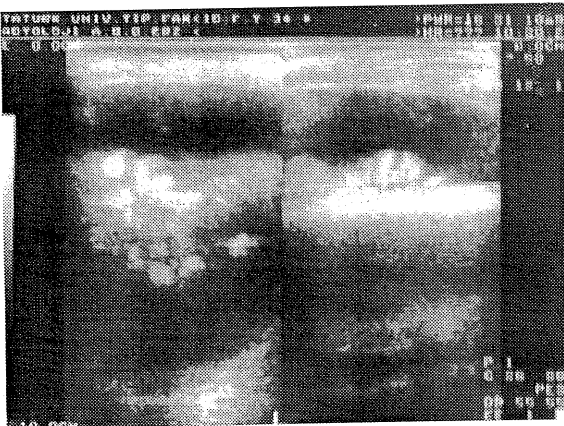
Pigmented villonodular synovitis is an uncommon primary disorder of synovium clinical examinations and laboratory studies are not diagnostic. Ultrasound with its best contrast resolution and easy applicability and magnetic resonance imaging with its multiplanar imaging capability and highest contrast resolution promise us to evaluate the lesion, its extent and relationship with adjacent tissue exactly.

Key words : *Pigmented villonodular synovitis, Ultrasonography, Magnetic resonance imaging*

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Pigmented villonodular synovitis (PVNS) is an uncommon, proliferative synovial disease of unknown etiology. There is no consensus whether these lesions are neoplastic or inflammatory (1,2). Clinically, there is a history of months to years of pain and swelling (1-3). Knee is the most common site of involvement (80%). There is no certain age or sex preference. Clinical examination and laboratory studies are not diagnostic (1-3).

Figure 1. *In the Transverse Ultrasonographic Section, Suprapatellar Fluid Collection, Multiple Hyperechoic Nodular Projections Extending into the Bursal Space Are Seen.*



Case Report

A 34-year old female was evaluated with ultrasound (US) and magnetic resonance (MR) imaging because of pain and swelling in her right knee. At the US examination of right knee, we observed increased fluid in the suprapatellar recess and multiple typical nodular projections extending into the bursal space (Figure 1). MR imaging was performed 0.5 T superconductive magnet using spin echo T1 and gradient echo T2 pulse-sequences in sagittal, coronal and transverse planes with a slice thickness of 10 mm. After intravenous (IV) Gd-DTPA injection T1 weighted images (T1WI) were repeated. The signal intensity of the lesion was compared with the signal intensity of muscle and fat tissues. On both sequences areas of low signal intensity suggested the presence of hemosiderin deposits and areas of signal intensity equal to subcutaneous fat tissue suggested the presence of fat deposits in the lesion. After IV Gd-DTPA enjection, slight contrast enhancement was observed. There was no pathology in neighboring bones, articular spaces and cruciate ligaments. We demonstrated low signal intensity on T1WI and high signal intensity on T2WI because of increased fluid (Figure 2a, 2b, 2c). After the diagnosis of PVNS with imaging modalities, arthroscopy was performed. Histopathologic examination of the specimen proved PVNS (Figure 3). PVNS is a primary disorder of synovium that results in proliferation of dense, hypertrophic, hemosiderin laden synovial tissue. PVNS is classified as follows: PVNS shows diffuse joint involvement, pigmented

Figure 2 a. *TIWI, Axial Section. Nodular Projections of High Signal Intensities (Comparable to Signal Intensity of fat) and Increased Articular Fluid.*

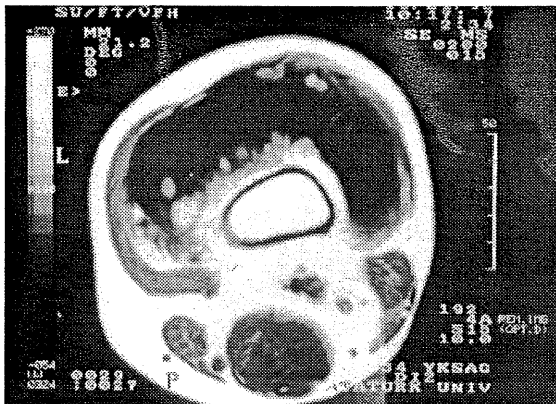
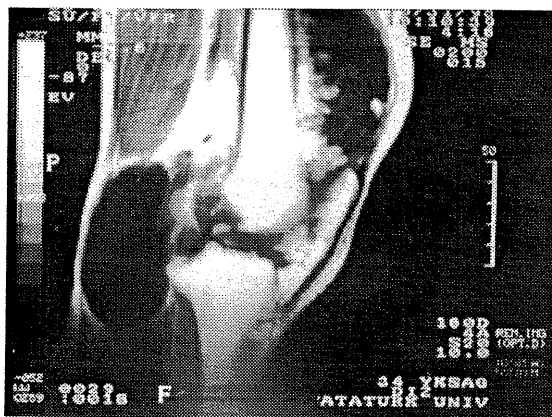


Figure 2 b. *TIWI, Sagittal Section. Signal Intensities Comparable With the Signal Intensity of Fat in the Suprapatellar Region and Low Signal Intensity of Suprapatellar Collection Are Seen. Round, Well-defined Fluid Collection of Low Signal Intensity in the Popliteal Fossa.*



villonodular bursitis is localized form with bursal involvement as in our case and pigmented villonodular tenosynovitis occurs in tendon sheaths (1-3). At US increased fluid in articular space, diffuse thickening of synovial membrane, nodular projections which extend into the articular space and are demonstrated (4). In our case we observed anechoic increased fluid and multiple (isoechoic or

hyperechoic) nodular structures in suprapatellar bursa. In advanced cases, bone damages may be encountered ranging from small cortical erosions to larger ones. Subchondral cysts with thin sclerotic rim may be present (2,3).

Figure 2 c. *T2WI, Coronal Section. Hemosiderin Deposits Are Demonstrated as Very low Signal Intensities.*

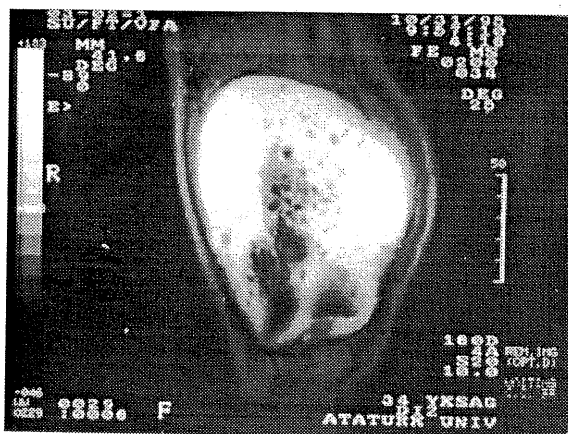
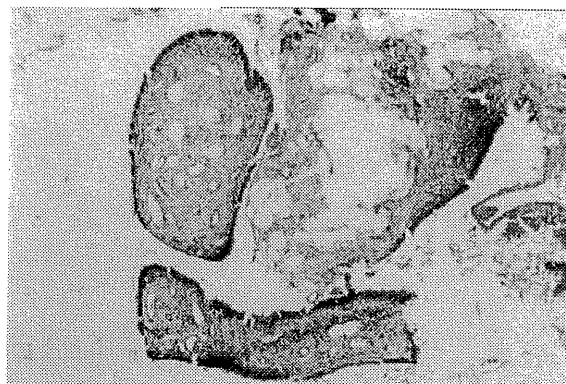


Figure 3. *Papillary Structures Showing intense Mononuclear Cell Infiltration in Fibrovascular Stroma. 40x(H&E)*



There is no calcification in these lesions. In the early reports about MRI appearances of PVNS, quite characteristic MR features of PVNS in which SI can be explained by the unique tissue components of hemosiderin and fat are described. Hemosiderin deposits are demonstrated as very low signal intensities on both short and long TR/TE sequences. Inflamed synovium shows intermediate signal intensity (equal or higher than signal intensity of muscle but lower than signal intensity of fat) on short TR/TE. Fluid has increased signal intensity on long TR/TE images (5-8). So the signal intensities of PVNS depends on the tissue components of PVNS, particularly hemosiderin and fat. We observed no pathology in articular space and cruciate ligaments. The reports on MR imaging findings after Gd-DTPA injection are limited. In our study we demonstrated slight contrast enhancement. We concluded that US and MRI are noninvasive imaging modalities in the diagnosis and follow-up of PVNS.

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