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Case Report

Bilateral pigmented villonodular synovitis of the knee

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ABSTRACT

Pigmented villonodular synovitis is a disorder resulting in a villous, nodular, or villonodular proliferation of the synovium, with pigmentation related to the presence of hemosiderin. These lesions are almost exclusively benign with rare reports of malignancy. Pigmented villonodular synovitis can occur in a variety of joints and at any age but most often occurs within the knee in the young adult. Pigmented villonodular synovitis is a rare disease entity, and bilateral synchronous or metachronous involvement of a joint is even more uncommon, with few reports previously described in the literature. We present a case of pigmented villonodular synovitis involving both the right and left knee in the same patient, with radiographic imaging, magnetic resonance imaging, photograph and video intraoperative imaging, and pathologic correlation.

Case report

A 62-year-old man, with a medical history of HLA-B27–positive ankylosing spondylitis and asthma, initially presented to his primary care provider in July 2001 with left knee pain and a sensation that something was "popping out" of the anteromedial aspect of the joint. There was no instability of the knee on physical examination. Radiographs of the left knee were obtained, which demonstrated mild patellofemoral degenerative osteophyte formation with a small knee joint effusion (Fig. 1). He was diagnosed with patellofemoral osteoarthritis and subsequently made repeated visits to his primary care provider and physical therapist over the next several years because of persistent, nonremitting pain.

In September 2009, because of worsening pain, as well as new symptoms of locking and a palpable, mobile lump along the anteromedial joint line, a magnetic resonance imaging (MRI) scan was obtained. MRI revealed a joint effusion, patellofemoral osteoarthritis, and a multilobulated lesion in continuity with the synovium in the anteromedial patellofemoral joint space. The lesion exhibited homogeneous enhancement and "blooming" on gradient echo images (Fig. 1) and was suspicious for pigmented villonodular synovitis (PVNS). He was referred to the orthopedic surgery service at our institution, where he underwent excision of the intra-articular lesion in January 2010. Pathologic examination (Fig. 2) confirmed the diagnosis of PVNS. After postsurgical rehabilitation, he has not experienced recurrent left knee pain.

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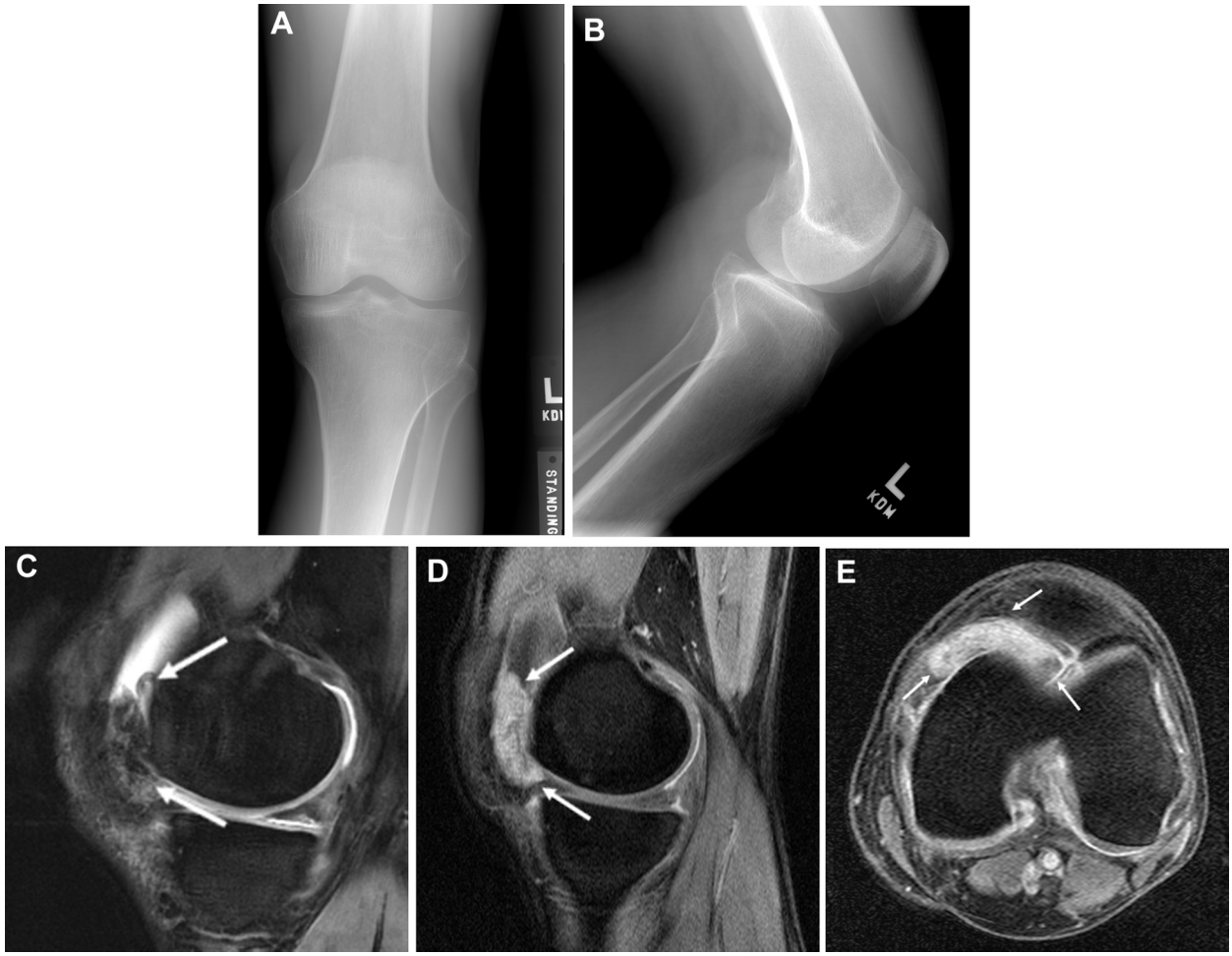

Fig. 1 – A 62-year-old man with bilateral pigmented villonodular synovitis of the knee. Frontal (A) and lateral (B) radiographs of the left knee demonstrate minimal patellofemoral osteophyte formation and small joint effusion. Sagittal T2 fat-saturated (C) and sagittal (D) and axial (E) postcontrast T1-weighted magnetic resonance images of the left knee reveal a lobulated, enhancing mass (arrows) in the anteromedial knee, which on excision was consistent with pigmented villonodular synovitis.

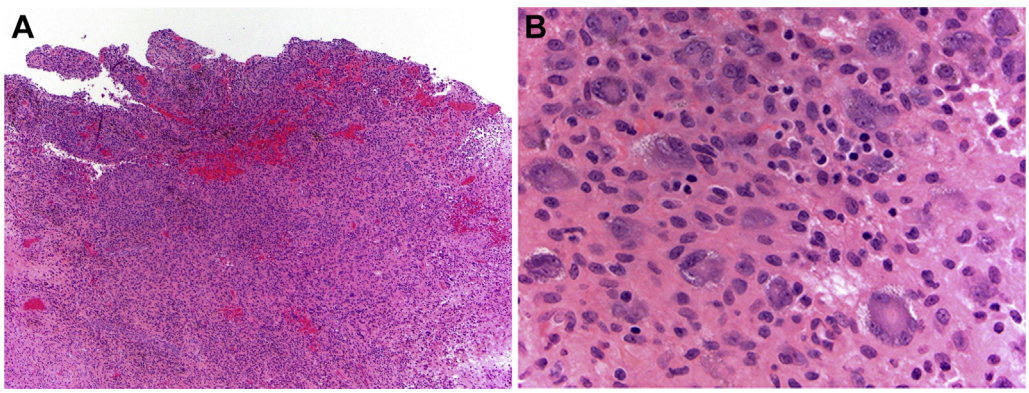

Fig. 2 – A 62-year-old man with bilateral pigmented villonodular synovitis of the knee. (A) Low- and (B) high-power photomicrographs demonstrate a sheet-like growth of mononuclear cells, primarily histiocyte-like, admixed with multinucleated giant cells, some of which demonstrate a peripheral rim of hemosiderin, consistent with a diffuse-type tenosynovial giant cell tumor.