
Coexisting Chondrocalcinosis, Osteoarthritis and Popliteal Cyst

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IMAJ 2003;5:74–75

A 79 year old male was admitted for pain and swelling in his right calf. Past history included a war injury to the left leg that occurred 40 years previously, and bilateral knee pain for many years. The bilateral knee pain had worsened with activity during the past 4 years, and was relieved with rest, analgesics, and utilization of a cane. A few days prior to admission the patient felt increasing pain and swelling in the right calf.

Physical examination revealed an overweight patient. Local warmth, tenderness, limitation of motion, and a positive bulge sign were found on examination of the right knee. There was fullness in the right popliteal fossa. Bilateral knee crepitus was present. The calf was swollen. The crescent sign was absent.

Radiography of the right knee [Figures 1 and 2] revealed osteoarthritic changes: narrowing of the medial compartment, osteophytes, and soft tissue swelling. In



Figure 1.



Figure 2.

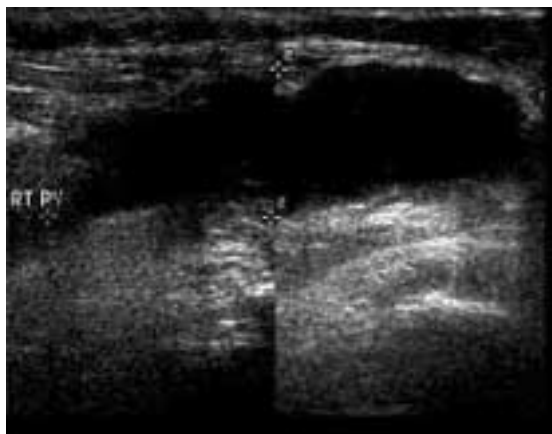


Figure 3.

addition, calcific stippling was noticed in the joint space, indicative of chondrocalcinosis.

Ultrasound Doppler [Figure 3], depicting a transverse view of the popliteal fossa, shows the large blood vessels and a subcutaneous cystic lesion. Figure 4 is a longitudinal view of the right calf showing a subcutaneous, hypoechoic, intermuscular lesion. The lesion underwent echo enhancement compatible with the diagnosis of Baker's cyst. There was no evidence of the compartment compression syndrome.

Further diagnosis and treatment consisted of a synovial tap; 20 ml of straw-colored fluid was removed. A complete blood count was non-inflammatory (white blood cells $1,360/\text{mm}^3$), no crystals were identified, and there was no evidence of infection. The patient was treated with a cyclooxygenase-2 specific inhibitor, non-steroidal anti-inflammatory drug (Vioxx, 25 mg once a day per os) and bed rest. The patient was released on the fifth day of hospitalization following improvement of his condition.

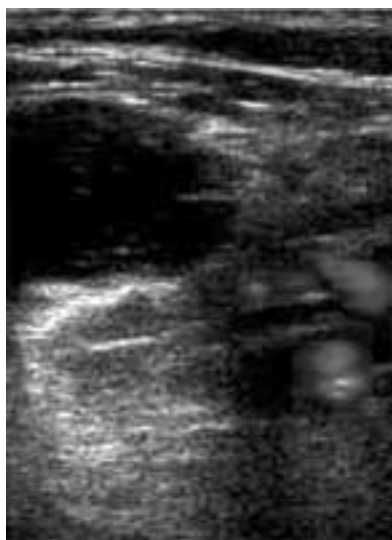


Figure 4.

Depending on the studied population and the imaging technique, 5–32% of knee problems may have popliteal cysts, with two age-incidence peaks of 4–7 years and 35–70 years. In older patients there is usually coexistent joint pathology, most commonly rheumatoid arthritis, osteoarthritis, or internal derangement of the knee. Symptoms may arise in the popliteal fossa from the cyst itself or may be dominated by knee pain from coexisting knee pathology. Pathogenesis depends on the connection between the joint and bursa, with a valve-like effect allowing passage of fluid from the joint into the bursa with subsequent distension producing these cysts. Some bursae have no such joint-bursal communication, and the cysts arise primarily as bursitis of the gastrocnemio-semimembranosus bursa. Imaging is performed by plain X-ray, ultrasound, arthrography, computed axial tomography, magnetic resonance imaging, or nuclear scan. Sonography is the method of choice. Complicated cysts with exten-

sion or rupture into the calf mimic phlebitis, an important differential diagnosis. Asymptomatic cysts found incidentally do not require treatment; most symptomatic cysts respond to intraarticular corticosteroid injections. Surgical excision is rarely necessary.

Popliteal cyst in a patient with chondrocalcinosis is rare [3], but is reported in patients with osteoarthritis, which in this case may be secondary to calcium pyrophosphate dihydrate disease. Hill et al. [4] evaluated the association of effusions, popliteal cysts, and synovial thickening with knee symptoms in older persons with or without

radiographic osteoarthritis. The incidence of popliteal cysts was 33% in patients with severe osteoarthritis radiographic changes and symptomatic knee pain, and 28% in asymptomatic patients.

References

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