

A male with a painful left knee

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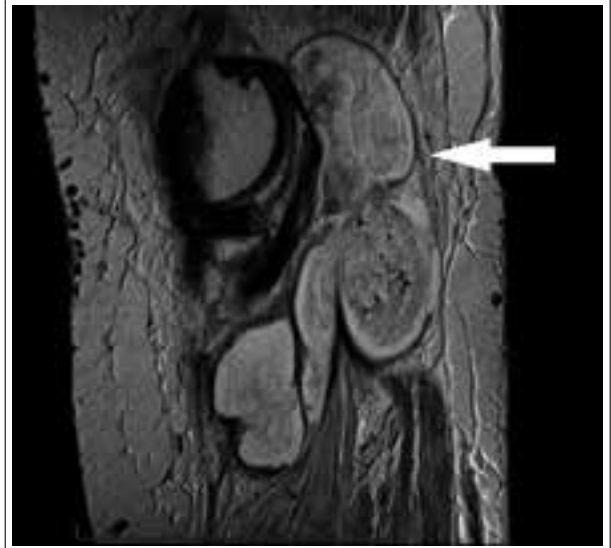
CASE REPORT

A 40-year-old male was admitted to the emergency department with fever and progressive pain of the left leg. His medical history included kidney transplantation for loss of kidney function due to hereditary glomerulonephritis, obesity, thromboembolic events and erysipelas. The patient had been on long-term immune suppression (ciclosporine and prednisone). Examination of the left leg showed no signs of acute infection, besides a minimal difference in temperature between the left and right knee. Extended lower extremity ultrasound was performed to exclude deep vein thrombosis, showing no signs of intravascular coagulation. However, a hydrops of the left knee was seen. Magnetic resonance imaging of the left knee showed the following picture (*figure 1*.)

WHAT IS YOUR DIAGNOSIS?

See page 144 for the answer to this photo quiz.

Figure 1. A sagittal T2-weighted magnetic resonance imaging showing a large collection in the medial femorotibial compartment of the left knee



DIAGNOSIS

This sagittal T2-weighted image shows a distended gastrocnemius–semimembranosus bursa in the medial femorotibial compartment of the left knee. This popliteal cyst consisted of fluid collections with an inhomogeneous aspect, making it more suspect for infection. Therefore a needle aspiration was performed revealing a *Klebsiella pneumoniae*.

Popliteal cysts were first described in the 19th century by Marrant Baker as a cystic mass in the popliteal fossa (also known as Baker's cyst). Most popliteal cysts are asymptomatic and are detected incidentally by an imaging study performed for another reason. Several risk factors for the development of popliteal cysts have been reported including trauma and coexisting joint disease such as rheumatoid arthritis. Popliteal cysts may enlarge as a consequence of rupture or dissection giving symptoms resembling deep vein thrombosis.

In rare cases popliteal cysts can become infected. *Staphylococcus aureus* infections are most commonly found. *Mycobacterium tuberculosis* infections of popliteal cysts are also reported. Popliteal cysts are an ideal seeding ground for circulating bacteria and can therefore get infected in patients suffering from bacteraemia.¹

In our patient a *Klebsiella pneumoniae* was cultured from aspiration fluid. To our knowledge *K. pneumoniae* infections of popliteal cysts were not previously described. *K. pneumoniae* infections are generally found in patients with a reduced immune status. *K. pneumoniae* infections

are most commonly found in the respiratory tract and urinary tract although cases of liver and renal cyst infections have been reported. Our patient had been on systemic immune suppression for a longer period of time to prevent rejection after kidney transplantation, making him more susceptible for *K. pneumoniae* infection.

In most cases treatment with antibiotics alone is not sufficient. Nevertheless, operative treatment to reduce symptoms is also a topic of discussion, especially in cases of ongoing cyst infections. Therefore, the patient was treated primarily with antibiotics (cotrimoxazole) for a long period of time. Treatment led to regression of the swelling and reduction of the clinical symptoms. Follow-up will determine if surgical treatment is required.

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