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Figure 1. View of right lower extremity.

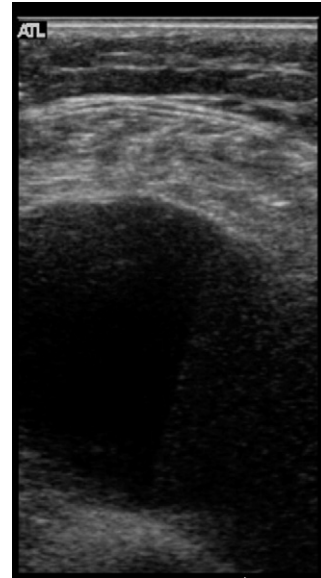


Figure 2. Ultrasonographic image of fluid collection in right lower extremity.

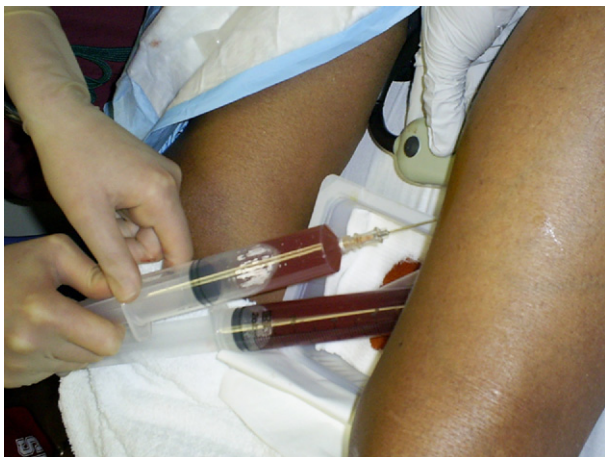


Figure 3. Aspiration of right lower extremity under ultrasonographic guidance. Used with permission of Derek Isenberg, MD, Department of Emergency Medicine, Yale University School of Medicine, New Haven, CT.

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A 68-year-old woman presented for evaluation of right lower extremity swelling. On examination, the patient was afebrile, with normal vital signs. Examination of the right leg revealed a hard extremity, swollen from the ankle (Figure 1) to the thigh, with tenderness on palpation and dorsiflexion at the ankle. Pedal pulses could not be felt, although they were present with Doppler ultrasonography. Ultrasonography of the right lower extremity was performed. The ultrasonography revealed no deep venous thrombosis but a large fluid-filled structure extending from the upper calf to the heel (Figure 2). Aspiration was performed under sterile conditions with ultrasonographic guidance, and 100 mL of serosanguineous fluid was obtained (Figure 3).

For the diagnosis and teaching points, see page 590.

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(continued from p. 582)

DIAGNOSIS:

Dissecting Baker's cyst. A Baker's cyst is a fluid-filled sac found in the medial aspect of the popliteal fossa, extending from the gastrocnemius or semimembranosus bursa. In younger patients, Baker's cysts are often idiopathic and resolve spontaneously. In adults, these popliteal cysts can be indicative of underlying knee pathology, most commonly a meniscal tear. Patients present most commonly with pain behind the knee and painful range of motion at the knee joint.

An increase in intracapsular pressure can cause rupture of the Baker's cyst. The synovial fluid can dissect through the intramuscular planes of the lower extremities. A dissecting Baker's cyst can cause acute pain and swelling that mimics deep venous thrombosis or thrombophlebitis, with signs and symptoms of compartment syndrome.^{1,2}

Ultrasonography is a rapid and inexpensive means of detecting a ruptured Baker's cyst and likely to be utilized in a clinical picture suspicious for deep venous thrombosis. Ultrasonography will demonstrate an anechoic fluid collection tracking through the leg. Ecchymosis of the dorsum of the foot sometimes occurs and can be a useful clinical finding.³ Compartment syndrome is a serious sequela of a dissecting Baker's cyst and requires rapid identification and management. In adults, a Baker's cyst is likely to recur without treatment of underlying pathology.

REFERENCES

1. Fang CS, McCarthy CL, McNally EG. Intramuscular dissection of Baker's cysts: report on three cases. *Skeletal Radiol.* 2004;33:367-371.
2. Schimizzi AL, Jamali AA, Herbst KD, et al. Acute compartment syndrome due to ruptured Baker cyst after nonsurgical management of an anterior cruciate ligament tear: a case report. *Am J Sports Med.* 2006;34:657-660.
3. von Schroeder HP, Ameli FM, Piazza D, et al. Ruptured Baker's cyst causes ecchymosis of the foot. A differential clinical sign. *J Bone Joint Surg Br.* 1993;75-B:316-317.