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## Case Report

## Amebic osteomyelitis in an immunocompromised patient

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## ABSTRACT

*Acanthamoeba* spp. are pathogenic protozoa that are uncommonly encountered. They tend to infect immunocompromised patients, most often causing cutaneous lesions and in some instances granulomatous amebic encephalitis, as well as rare instances of dissemination to other organs. We present a case of amebic osteomyelitis of the fibula in a patient with rejection of a transplanted kidney who was chronically immune-suppressed.

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## Case report

A 36-year-old diabetic woman with a remote history of renal transplant being maintained on immunosuppressant therapy for chronic transplant rejection was initially diagnosed with cutaneous infection by an *Acanthamoeba* sp. She presented to an outside facility emergency department approximately one month after initial diagnosis with fever, mild dyspnea, nausea, vomiting, and severe pain in the left knee that started several days before presentation. Physical examination revealed a small, warm, tender, and erythematous area along the lateral aspect of the inferior left knee. Initial radiographs of the left knee revealed a permeative pattern with cortical destruction in the proximal fibula and swelling of the overlying soft tissues,

concerning for osteomyelitis (Fig. 1). Magnetic resonance imaging (MRI) without contrast of the left knee was performed, revealing cortical destruction and exuberant increased T2 signal intensity (SI) with corresponding decreased T1 SI in the proximal fibula consistent with osteomyelitis. A large abscess with surrounding soft-tissue edema was present lateral and posterior to the fibula (Fig. 2). The patient was admitted and treated in an intensive care unit at the outside institution. She underwent 2 surgical procedures several days apart for drainage of the abscess and excisional debridement of the proximal fibula. Tissue samples from surgery were sent to the Centers of Disease Control and Prevention in Atlanta, which confirmed the presence of *Acanthamoeba*. The patient underwent complex antimicrobial therapy and improved sufficiently

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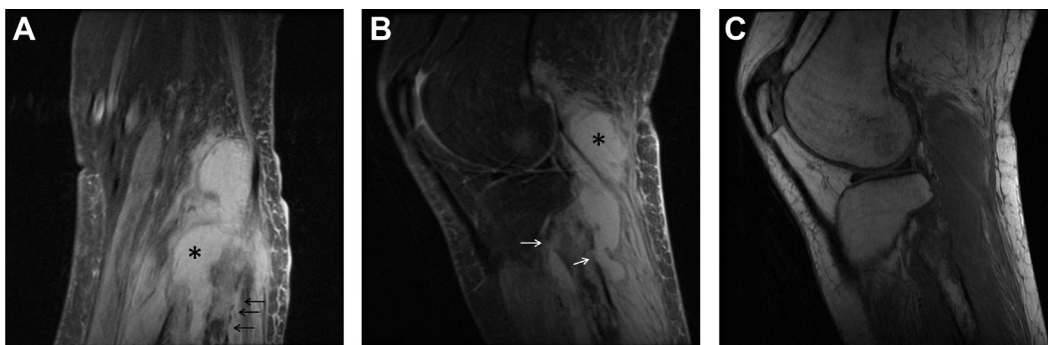


**Fig. 1** – A 36-year-old woman with *Acanthamoeba* spp. osteomyelitis of the left fibula. Frontal (A) and lateral (B) radiographs demonstrate a permeative pattern of lucency within the proximal fibula with interruptions in the cortex (arrows) and soft-tissue swelling.

for discharge to a long-term acute care facility, where she continued to recover and eventually returned home.

The patient was followed closely on an outpatient basis and maintained on both prednisone for transplant rejection and a multi-agent regimen for disseminated amebiasis. Several weeks after discharge from the long-term care facility, she complained of an increasing number of painful cutaneous nodules on her right elbow, right lower back, and left thigh and was subsequently admitted to our facility. New

radiographic and MRI examinations of the left tibia and fibula (Figs. 3 and 4, respectively) showed recurrence of a fluid collection consistent with abscess around the remainder of the proximal fibula. The patient underwent another excisional debridement with resection of the proximal fibula. Pathologic examination of tissue samples again showed organisms consistent with amoebae. Of note, the patient also had tree-in-bud opacities with a right upper lobe predominance and small bilateral pleural effusions on noncontrast thoracic



**Fig. 2** – A 36-year-old woman with *Acanthamoeba* spp. osteomyelitis of the left fibula. Coronal (A) and sagittal (B) proton density fat saturation images show high SI within the medullary canal of the proximal fibula. Cortical disruption (arrows) and subcutaneous edema correlate with findings seen radiographically (Fig. 1), and the cortical interruptions are shown to communicate with a homogeneous, high SI collection (\*) confirmed at surgery to be an abscess cavity. Sagittal T1WI (C) shows well-circumscribed regions of low internal T1 SI in the proximal fibula.

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