

Sporotrichoid Fluctuant Nodules

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A woman in her 50s presented with low-grade subjective intermittent fevers and painful draining ulcerations on the legs of 7 months' duration. Her medical history was remarkable for polymyositis and interstitial lung disease managed with prednisone and mycophenolate mofetil. While living in Taiwan, she developed lower extremity abscesses and persistent fevers. The

patient denied any skin injuries or exposure to animals or brackish water. Mycophenolate mofetil was discontinued, and she was treated with multiple antibiotics alone and in combination without improvement, including amoxicillin–clavulanic acid, levofloxacin, azithromycin, moxifloxacin, rifampin, rifabutin, and ethambutol. She returned to the United States for evaluation. Physical examination revealed ulcerations with purulent drainage and interconnected sinus tracts with rare fluctuant nodules along the right leg. A single similar lesion was present on the right chest wall. There was no clinical evidence of disseminated disease.

What's the diagnosis?

- atypical mycobacterial infection
- Bartonella henselae* infection
- cutaneous lymphoma
- Pseudomonas aeruginosa* infection
- pyoderma gangrenosum

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The Diagnosis: Atypical Mycobacterial Infection

Punch biopsy specimens demonstrated necrotizing granulomatous inflammation in the dermis and subcutis (Figure). Special staining for microorganisms was negative. Tissue culture grew *Mycobacterium avium-intracellulare* (MAI). The patient began treatment with azithromycin, ethambutol, and rifabutin. Tissue susceptibilities later showed resistance to rifabutin and sensitivity to clarithromycin, moxifloxacin, and clofazimine. She subsequently was switched to azithromycin, clofazimine, and moxifloxacin with good response.

Mycobacterium avium-intracellulare is a slow-growing, nonchromogenic, atypical mycobacteria. Although ubiquitous, it tends to only cause serious infection in the setting of immunosuppression. Transmission usually is through the respiratory or gastrointestinal tract.¹ Skin infections with MAI are uncommon and usually are secondary to seeding from disseminated infection or from direct inoculation.²

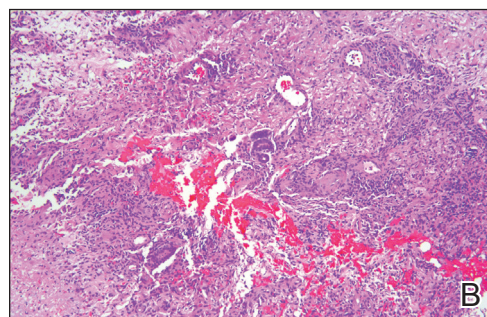
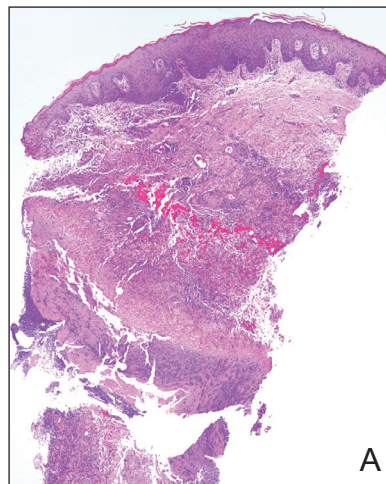
The clinical presentations of primary cutaneous MAI are myriad, including an isolated red nodule, multiple ulcers, abscesses, draining sinuses, facial nodules, granulomatous plaques, and panniculitis.^{2,3} Of 3 reported cases of primary cutaneous MAI in the form of sporotrichoid lesions, 2 involved patients with AIDS² and 1 involved a cardiac transplant recipient.⁴

Cutaneous MAI is typically diagnosed with skin biopsy and tissue culture. Tissue culture is critical for determining the specific mycobacterial species and antibiotic susceptibilities. Polymerase chain reaction has been utilized to rapidly diagnose cutaneous MAI infection from an acid-fast bacilli–positive tissue sample in which the tissue culture was negative.⁵

Recommended treatment protocols for MAI involve multidrug regimens because of the intrinsic resistance of MAI and the concern for development of resistance with monotherapy.² No definitive guidelines exist for treatment of primary cutaneous MAI infections. However, regimens for the treatment of pulmonary infection that also have been successfully utilized for cutaneous infection include a macrolide, ethambutol, and a rifamycin.⁶ Clinicians should be aware of MAI as a cause of primary cutaneous infections presenting as lymphocutaneous suppurative nodules and ulcerations.

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