

Mycobacterium avium-intracellulare complex (MAC) is an acid-fast atypical mycobacterium (ATM)

THINK OUTSIDE THE BOX: ATYPICAL MYCOBACTERIA AS A CAUSE OF SKIN AND SOFT TISSUE INFECTIONS. MD Grammas. Yale Medicine and Pediatrics Residency Program, New Haven and Waterbury, CT.

LEARNING OBJECTIVES:

1. Identify patients at risk for atypical mycobacterial infections.
2. Recognize the clinical features of mycobacterial soft tissue infections.
3. Diagnose and treat atypical mycobacterial infections.

CASE:

A 73-year-old woman with steroid-dependent rheumatoid arthritis, presented with right arm cellulitis not improving after two months of antibiotics including treatment with cephalexin, TMP-SMX, ciprofloxacin, clindamycin, vancomycin and zosyn. She was afebrile with pain and swelling in her right arm. Physical exam revealed an erythematous, edematous, tender right forearm, wrist and hand with multiple flesh-colored nodules and purplish-red ulcerated lesions with serosanguinous exudate. Lab data including CBC, CMP, blood culture, HIV, RF, anti-CCP, and anti-NCA were negative. Ultrasound and MRI of the extremity showed soft tissue swelling without evidence of osteomyelitis or subcutaneous air. Tissue biopsies revealed negative AFB smear, but MAI probe and culture were positive with 3+ organisms. The source of infection was not entirely well identified but exposure to injections in an earlier hospitalization might have been a predisposing factor in this relatively immunocompromised patient.

DISCUSSION:

that is ubiquitous in the environment and the most common ATM associated with human disease.

Cutaneous infection occurs by three mechanisms: post-traumatic/direct inoculation, hematogenous spread in disseminated disease or direct extension in cases of complicated cervical lymphadenitis. MAI has been found to cause skin disease in both immunocompetent and immunocompromised hosts. Prior to 1997, only 12 cases of primary cutaneous MAI infection were reported, but more recent CDC surveillance data suggests an incidence of 1:100,000 cases annually. Though rare overall, MAI and other ATM should be suspected when any individual presents with a history of antibiotic-resistant cellulitis or unusual skin lesions as in the illustrative case. Careful history should consider exposure to contaminated water, recent injections, surgery or trauma. Once suspected, tissue biopsy is the gold standard for diagnosis. Most patients

respond to multi-drug rifampin-based therapy; however, severe cases may require surgical debridement, excision and skin graft. Delay in diagnosis could result in significant morbidity.