

Disseminated *Actinomyces meyeri*: A Rare Presentation with Skin, Lung, Brain and Heart Involvement

Amanda Walker, MD¹, Ashkan Hashemi MD², Abraham Wei, MD² and Debra Chew, MD, MPH²

Department of Medicine-Pediatrics¹, Department of Medicine², Rutgers New Jersey Medical School, Newark, NJ

Case Description: A 36-year-old male with no past medical history was admitted with multiple skin abscesses of his extremities, scalp, and chest wall for the past 4 months, as well as 40-pound weight loss, fatigue, sweats, and headaches. Outside hospital records showed multiple ED visits in the past 3 months, where he was diagnosed and treated for pneumonia, followed by treatment for skin abscesses. On initial exam, he was afebrile. He had multiple subcutaneous abscesses on his extremities and scalp, with a large 8 cm fluctuant mass overlying his sternum. CT Chest showed a consolidation within the lingula with extension into the anterior chest wall, and a 2 by 5.7 cm soft tissue chest wall collection. MRI Brain showed innumerable enhancing lesions bilaterally and enhancement within the right mastoid and below the skull base. After chest wall aspiration, he was started on Isoniazid, Rifampin, Pyrazinamide, Ethambutol, Azithromycin, Linezolid, Cefoxitin, Amikacin and Dexamethasone for suspicion for mycobacterium infection. Pathology from chest wall biopsy showed foamy histiocytes and no granulomas. Transthoracic and transesophageal echocardiogram revealed a small mitral valve vegetation. Culture from chest wall aspirate grew a gram-positive rod anaerobe after 6 days of incubation, subsequently identified as *A. meyeri* on MALDI-TOF mass spectrometry. Antimicrobials were changed to high dose Ceftriaxone as an outpatient. After 6 weeks, he was switched to high dose oral amoxicillin with plans for a prolonged course.

Discussion: Actinomycosis is an indolent infection caused by *Actinomyces species*, a gram-positive rod anaerobe. It often presents with oral-cervical facial disease, and sometimes as abdominal-pelvic or thoracic disease. Disseminated Actinomycosis, as highlighted by this case report, is extremely rare; most cases are associated with *A. meyeri*. Providers should consider the diagnosis of Actinomycosis when there is an indolent infection or one that is refractory or relapsing that progresses beyond tissue boundaries.