



RESEARCH ARTICLE

Aerobic actinomycetes that masquerade as pulmonary tuberculosis

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Received 2 November 2013; accepted 12 December 2013

Abstract

Background: There is an increasing recognition of organisms in the order *Actinomycetales* including *Nocardia* sp. causing lung infections that mimic pulmonary tuberculosis or fungal pneumonias.

Methods: We retrospectively evaluated a cohort of patients in the southeastern United States in whom a presumptive diagnosis of pulmonary tuberculosis was initially entertained but who eventually were found to have infection caused by *Rhodococcus* sp. or *Tsukamurella* sp.

Results: Among a cohort of 52 individuals diagnosed as case suspects for pulmonary tuberculosis, we identified six patients who were infected with either *Rhodococcus* sp. or *Tsukamurella* sp. Of these six patients, two had co-infection with *Mycobacterium tuberculosis*.

Conclusions: Infection with aerobic actinomycetes may mimic pulmonary tuberculosis or may cause concomitant disease in patients with pulmonary tuberculosis.

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Introduction

Pulmonary cavities are caused by tissue necrosis that leads to the exclusion of a portion of the pulmonary parenchyma via the bronchial tree.^{1,2} In general, the differential diagnosis of pneumonitis with cavitations includes infectious and noninfectious causes (Table 1). The infectious causes include bacteria such as community-associated methicillin-resistant *Staphylococcus aureus*,³ *Actinomyces* or *Nocardia asteroides*,^{1,2}

Rhodococcus equi,⁴ *Pseudomonas aeruginosa*,¹ melioidosis,² polymicrobial necrotizing pneumonias or lung abscesses;² mycobacteria including *Mycobacterium tuberculosis*⁵ or nontuberculous mycobacteria such as *Mycobacterium kansasii*,⁶ *Mycobacterium avium-intracellulare* and others;⁷ fungi *Aspergillus fumigatus*,⁸ *Histoplasma capsulatum*,⁹ *Cryptococcus neoformans* or *Cryptococcus gatti*,^{10,11} *Blastomyces dermatitidis*,¹² *Coccidioides immitis*,¹³ *Penicillium*² and others; and parasites *Paragonimus*

