

Always Remember to Floss...or Else

Arunmozhi Aravagiri*, Muhammad Zain, Asma Jamil, Rajesh Gulati, Darshan Manix

Internal Medicine Residency-Riverside Community Hospital / UC
Riverside School of Medicine

*Corresponding author

Arunmozhi Aravagiri, Internal Medicine Residency-Riverside Community
Hospital / UC Riverside School of Medicine, US

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Introduction

Actinomyces is a Gram positive bacteria that is part of the normal flora of the oral cavity, gastrointestinal tract, and genital tracts. Actinomycosis, can mimic granulomatous diseases, therefore distinguishing this infection from fungus, malignancy, or tuberculosis can be quite difficult. This case looks into an uncommon presentation of actinomycosis.

Case Description

A 38-year-old male with history of a dental procedure who resided in China from 2010 to 2018, presented with three months of productive cough, occasional hemoptysis, fevers, night sweats, and fifteen-pound unintentional weight loss. He had presented to urgent care multiple times prior to admission with symptoms recurring after a short course of antibiotics. CT scan of the chest revealed right upper lobe consolidation with necrosis and cavitation (12 x 9 x 7 cm) with moderate mediastinal lymphadenopathy, and minimal right-sided nodular interstitial opacities. Bronchoscopy revealed friable mucosa and yellow purulence with no endobronchial lesion nor obstruction. There was concern for possible underlying immunocompromised state given that actinomycosis infection is unusual in a supposed immunocompetent patient. However, immunoglobulin panel, peripheral blood smear, and complement levels all without evidence of immunocompromised state in this patient

During his hospital course, he continued to have severe cough with some mild hemoptysis, but one episode of severe hemoptysis with clots. Therefore, CT guided biopsy of the right upper lobe mass

was done which revealed acute and chronic inflammation and fibrosis with organisms suggestive of Actinomyces. Upon further investigation, patient reported that he had a periodontal cyst 2016 that required surgery in China, followed by an episode of bronchitis for a few months after the surgery. Furthermore, imaging also revealed patient had an anatomical abnormality, a large and tortuous bronchial artery, usually a structure that is not seen on imaging, which likely contributed to his significant hemoptysis.

Discussion

Actinomyces is an invasive bacterium that can cause serious infections usually in elderly and in immunocompromised patients. Pulmonary actinomyces is extremely rare in the general population, and has a bimodal age distribution with earlier peak at ages eleven to twenty years old, and clear peak incidences at fourth and fifth decade of life. There are very few case reports of actinomycosis in a young immunocompetent patient, especially in this case where the infection disseminated from the oral flora to the lung [1, 2].

References

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