

Case Report

Pulmonary Sequestration Associated with Actinomyces: A Case Report

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Received: 4 September 2020; Accepted: 7 October 2020; Published: 9 October 2020



Abstract: *Background:* Bronchopulmonary sequestration is a rare congenital malformation of the lower respiratory tract; it consists of a nonfunctioning mass of lung tissue that is irrigated by an anomalous systemic artery. The association with *Actinomyces* superinfection has not been well established. *Methods:* We present the case of a 35-year-old woman with a history of recurrent episodes of pneumonia. Based on radiological and histopathological examination, she was diagnosed with intralobar bronchopulmonary sequestration associated with *Actinomyces* infection. Promoting clinical suspicion is essential to diagnose pulmonary actinomyces in patients with recurrent pneumonia, to improve early recognition and timely management.

Keywords: pulmonary actinomyces; bronchopulmonary sequestration; congenital malformation; pulmonary lesion

1. Introduction

Bronchopulmonary sequestration (BPS) is a rare congenital malformation of the lower respiratory tract and represents 0.15–6.4% of congenital lung malformations [1]. It is characterized by a mass of nonfunctioning lung tissue that is supplied by an anomalous systemic artery and does not have a bronchial connection to the native tracheobronchial tree [2]. There are two forms of BPS: intralobar and extralobar; intralobar sequestration is the most common and has a reported incidence of 70–75% among all cases of sequestration [3]. Intralobar bronchopulmonary sequestrations (IBS) are incorporated into the normal surrounding lung tissue, predominantly in the posterior lateral segment of the left lung. Most cases of IBS are diagnosed at 20 years or older and there is no statistical difference in prevalence between genders [4,5]. It is known that an important factor for the recognition of this malformation is superinfection of aberrant lung tissue [6], where the association with *Actinomyces* is not clear.

Actinomyces is a chronic endogenous and rare granulomatous infection [7]. More than 30 species of *Actinomyces* have been described. The most common causal agent in this disease is *Actinomyces israelii*, which was originally described by Kruse in 1896 as *Streptothrix israelii* [8]. The *Actinomyces* species are obligate, Gram-positive, filamentous and nonmobile anaerobic bacteria [9]. At the pulmonary level, its etiology is secondary to the aspiration of secretions from the oropharynx or gastrointestinal tract into the respiratory tract [10].

The association between BPS and *Actinomyces* superinfection has not been well studied. We report a case of BPS and pulmonary actinomyces.