A rare case of co-infection with pulmonary tuberculosis and oronasal actinomycosis*, **

Caso raro de coinfeccão tuberculose pulmonar e actinomicose oronasal

Vitor Alexandre Oliveira Fonseca, Gustavo Reis, Carlos Alves, Maria José Simões, Elvira Camacho, António Pinto Saraiva

Abstract

Oronasal actinomycosis is an infection seldom described in the literature, especially in the form of a co-infection with pulmonary tuberculosis. We report the case of a 48-year-old male admitted to the isolation ward due to active pulmonary tuberculosis, with a history of diabetes and alcohol abuse. While hospitalized, the patient complained of dysphagia and nasal regurgitation of food. The examination of the oral cavity revealed an oronasal fistula. The infecting agent was identified, and the treatment was successful. We also present a brief review of the literature, as well as a full description and discussion of the process of investigating this rare clinical case.

Keywords: Actinomycosis, cervicofacial; Tuberculosis, pulmonary; Oral fistula.

Introduction

Actinomycosis is a chronic suppurative bacterial infection characterized by multiple abscesses, fistulous pathways and fibrosis involving the face, neck, chest and abdomen. It is caused by Actinomyces spp., a group of anaerobic gram-positive saprophytic bacteria. We present a rare case of co-infection with pulmonary tuberculosis, confirmed by sputum culture. During hospitalization, the patient presented complaints of dysphagia and nasal regurgitation of food after eating. The examination of the oral cavity revealed a large fistula of the palate due to Actinomyces spp. infection.

Case report

A 48-year-old white male, a construction worker, was admitted to the ER with complaints of fever and productive cough, together with night sweats, for two days. He had a history of diabetes, alcohol abuse and was a current smoker with an 80 pack-year smoking history. In addition, his dental health and hygiene were very poor.

He was acyanotic and presented normal respiration. The chest X-ray (Figure 1) revealed an infiltrative consolidation in the middle and upper lobes of the right lung, suggestive of cavitiation. The sputum smear microscopy showed...
A rare case of coinfection with pulmonary tuberculosis and oronasal actinomycosis


and might often not be reported. In our case and in other cases described in the literature, a significant disease process was identified. We postulate that preexisting periodontal disease was the source of infection, which was exacerbated by alcohol consumption and diabetes. The pulmonary infection by M. tuberculosis was acquired by epidemiologic factors. Most infec-

Discussion

Actinomyces spp. are anaerobic or aerotolerant (facultatively anaerobic), non-sporeforming, gram-positive bacteria that tend to form branching rods and filaments and have a fermentative type of carbohydrate metabolism. Actinomyces spp. are commensals of the mouth cavity and the upper respiratory tract. Their presence in the oral and respiratory specimens does not necessarily signify clinical disease and might often not be reported. In our case and in other cases described in the literature, a significant disease process was identified. We postulate that preexisting periodontal disease was the source of infection, which was exacerbated by alcohol consumption and diabetes. The pulmonary infection by M. tuberculosis was acquired by epidemiologic factors. Most infec-

Figure 1 - Chest X-ray showing an infiltrative lesion and cavitation in the right upper lobe, consistent with tuberculosis.

Figure 2 - Photograph of the oral cavity of the patient, revealing a large lesion in the hard palate with a fistula to the nasal cavity. The poor dental hygiene of the patient is also evident.
initial choice. In severe or rapidly progressive cases, penicillin administration should be initiated intravenously. Other antibiotics (ampicillin, tetracycline and clindamycin) can be used orally with good treatment results. Due to the strong tendency toward recurrence of this infectious agent, the treatment should be extended to 6-12 months.\(^\text{1}\)

In the literature, we found no reports of tuberculosis patients co-infected with \textit{A. naeslundii}.

Resistance to antimycobacterial drugs is a common cause of therapeutic failure of tuberculosis. In the setting of full susceptibility, other entities such as a co-infection might be suspected and appropriate cultures obtained. The \textit{M. tuberculosis} and \textit{Actinomyces} spp. co-infection is rare and therefore presents a diagnostic challenge in clinical practice. Early identification prevents prolonged diagnostic and therapeutic interventions that increase health care costs.\(^\text{3}\)

**References**

About the authors

Vitor Alexandre Oliveira Fonseca

Gustavo Reis

Carlos Alves

Maria José Simões

Elvira Camacho
Head of the Department of Pulmonology, Hospital Nossa Senhora do Rosário – HNSR – Barreiro, Portugal.

António Pinto Saraiva
Head of the Department of Pulmonology, Hospital Nossa Senhora do Rosário – HNSR – Barreiro, Portugal.