Case Report

Mediastinal Ganglionar Tuberculosis Postcardiac Transplantation

João Bruno Ribeiro Machado Lisboa, Guilherme de Abreu Rodrigues, Diego Corsetti Mondadori, João Paulo Cassiano de Macedo, Orival De Freitas Filho, Paulo Manuel Pêgo-Fernandes

Thoracic Surgery Division, Faculty of Medicine, University of São Paulo (FMUSP), São Paulo, Brazil

Abstract

The diagnosis and treatment of tuberculosis (TB) in transplanted receivers presents several challenges. TB is an opportunistic infection with high morbidity and mortality in solid organs of transplanted patients, therefore, the diagnosis difficulties. A case of a 30-year-old male, heart transplanted patient, who after being submitted to mediastinoscopy, obtained a result of lymph node TB.

Keywords: Heart transplantation, mediastinum, tuberculosis

Introduction

Postprimary TB is a condition rarely associated with lymphadenopathy. Its presentation almost always occurs in the parenchyma, airways, and pleura. The hilar and mediastinal lymph nodes are seldom affected, occurring in only about 5% of the immunocompetent patients.[1] The diagnosis and treatment of tuberculosis (TB) in transplanted receivers presents several challenges.[2] TB is an opportunistic infection with high morbidity and mortality in patients in solid organs of transplanted patients, therefore, the diagnosis difficulties.[3] The assessment of risk for the development of TB in solid organs receivers depends on, among other factors, the expected local prevalence of Mycobacterium tuberculosis infection in the target population.[4] The transplant (TPL) is a therapeutic option for ending organ disease. After TPL receivers are given immunosuppressive agents to prevent rejection, which results in impaired immune status and thus, an increased risk of infectious complications. Conventionally, TB is known to be associated with poor clinical outcomes in TPL recipients.[5]

Case Report

The DPT patient, 30-years-old, male, with a history of progressive dyspnea, orthopnea, edema of the lower limb, assisted by the cardiology group of the Instituto do Coração (InCor) due to heart failure (HF), sought the InCor emergency room (PS-InCor) in 2016 with worsening dyspnea and abdominal pain, diagnosis of decompensated HF, being hospitalized for clinical compensation. This man had been already presenting an eCard of FE25% for that year. AE57. DSVE 79. DDVE67. Diffuse systolic dysfunction of the left ventricle of important degree. Diffuse systolic dysfunction of the right ventricle of discreet degree. An important degree of insufficiency of aortic, mitral and tricuspid valves. Pulmonary arterial hypertension (PSAP: 63). During hospitalization, he developed aortic insufficiency and underwent valve replacement in 2016. Due to biventricular dysfunction and aortic insufficiency, mitral regurgitation, tricuspid insufficiency, cardiac failure undergoing orthotopic cardiac transplantation (Tx) in July 2016. Progressing accordingly, presented rejection of the graft being controlled with immunosuppressants, being discharged with clinical improvement on the 15th postoperative period. Two months after cardiac Tx, he sought PS-InCor referring to daily fever in the morning, with no chest complaints. He was diagnosed with right pneumonia after computed tomography (CT), which...
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using clinical semiology and imaging tests in which an increase of the mediastinal lymph nodes was evidenced, both in CT and PET‑CT, as well as mediastinal uptake in the latter. According to Feraco et al. PET‑CT is a powerful tool to determine the diagnosis of anterior mediastinal mass. To a large extent in context, the method is used in malignant diseases. The sensitivity was 85%–95% and specificity was 95% in the detection of lymphoma. However, infectious and inflammatory diseases present high metabolism of glucose, providing a comprehensive assessment of the anatomic and metabolic extent of the infection and the inflammation involving soft-tissues and bone structures. PET/CT can facilitate the identification of extrapulmonary TB, TB staging, and differentiation between TB and malignant neoplasms. [8‑11]

There are few documented cases of TB that present as an isolated anterior mediastinal mass in an immunocompetent patient, most of them occurring in the pediatric population. In the study conducted by Maguire, it was raised in the literature, 03 cases in occurred in adult male patients, aged between 32 and 76 years, and 10 cases in the pediatric population aging 2 years or under. A counterpoint to the literature is that the clinical presentation was initially frustrated with clinical worsening, with no mass effect, as shown by the published data on adult presentations of mediastinal TB in immunocompetent patients. [11‑13] The diagnosis was confirmed after histopathology both aspects observed in the case shown.

Figure 1: Chest tomography with bulky lymph node disease

Nalladaru and Wessels in their series studied 31 cases in which he underwent mediastinoscopy, of which 96% had isolated medisatal lymphadenopathy. Of these, 77.4% of cases presented benign disease in histopathology. The accurate diagnostic obtained by mediastinoscopy resulted in the empirical pharmacotherapeutic approach to anti-TB early. [14‑16] Other methods such as endobronchial ultrasound guided trans‑bronchial needle aspiration, endoscopic ultrasonography-guided fine-needle aspiration, and thoracoscopy (video‑assisted thoracic surgery) are alternatives for research on mediastinal TB. [17,18]

Figure 2: Tuberculosis bacillus (circles) isolate in Ziehl‑Neelsen (×100)

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Discussion

The mediastinal tuberculous lymphadenopathy is a rare entity in adults. [6] The diagnosis of a mediastinal mass is a common challenge in clinical practice, especially in immunocompromised patients, the symptoms of these cases can range from asymptomatic to mass effect due to the compression of local structures. [7] The differential diagnosis of mediastinal masses is widespread and includes lymphoma, thymic mass, germ cell tumor and tissue ectopic thyroid, primary thymic neoplasms, thyroid masses and rarely TB, lymphoma being the most commonly diagnosed in adults. [8]

In the case presented here, the patient started the oligosymptomatic condition, presenting worsening the symptoms during hospitalization. The patient was assessed using clinical semiology and imaging tests in which an increase of the mediastinal lymph nodes was evidenced, both in CT and PET‑CT, as well as mediastinal uptake in the latter. According to Feraco et al. PET‑CT is a powerful tool to determine the diagnosis of anterior mediastinal mass. To a large extent in context, the method is used in malignant diseases. The sensitivity was 85%–95% and specificity was 95% in the detection of lymphoma. However, infectious and inflammatory diseases present high metabolism of glucose, providing a comprehensive assessment of the anatomic and metabolic extent of the infection and the inflammation involving soft-tissues and bone structures. PET/CT can facilitate the identification of extrapulmonary TB, TB staging, and differentiation between TB and malignant neoplasms. [8‑11]

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TB is an entity that has an atypical presentation in transplanted patients, and its hypothesis should not be excluded, timely treatment allows the patient to present a favorable outcome.

Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest
There are no conflicts of interest.

REFERENCES