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# Case Report

# Pericardial tuberculosis with an emphasis on empiric therapy in endemic areas for tuberculosis (a case report)

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#### ABSTRACT

Pericardial tuberculosis (TB) is rare, but has particularly severe complications and a high mortality rate when not treated. Prompt treatment of pericardial TB is important and can be life-saving. We report a 13-year-old girl with massive pericardial effusion and negative workup for TB, who was empirically treated with an excellent response.

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#### Introduction

Pericardial tuberculosis is a rare form of mycobacterium tuberculosis infection. It is common in endemic areas for TB, like our region Asia. Many of the cases are old or may have a background of immunodeficiency (e.g. They may be human immunodeficiency virus-positive, or undergo immunosuppressive therapy) [1–3].

In many cases the workup for TB is positive and the patient may have a documented positive test (e.g. PCR, culture, biopsy, smear for acid fast bacilli, etc.) or a personal or family history of contact with TB or an infection with TB may be positive.

We introduce a young female, who was immunocompetent, with no history of TB and negative workup for mycobacterium tuberculosis. She responded rapidly to the empiric

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therapy and her condition was excellent at follow-up 2 months later.

#### **Case Report**

A 13-year-old female student presented to the urology clinic with fatigue, peripheral edema, dysuria, and hematuria, these symptoms having begun recently. She had a history of renal stone. The urologist ordered an abdominal and pelvic computed tomography scan with intravenous and oral contrast. In the computed tomography, moderate ascites, right-sided pleural effusion, and pericardial effusion were seen (Fig. 1).

She was admitted to the Emergency Department of the Shahid Rahimi Hospital of Lorestan, Iran. In the complete history, she reported dyspnea on exertion and weight loss in the past 1 month, but she had ignored them. She had no history of cough, chest pain, night sweats, orthopnea, tuberculosis (TB), diabetes mellitus, or immunosuppression. There was no personal or family history of contact with or an infection with Mycobacterium tuberculosis. She denied any recent chest infection.

On physical examination she seemed well and comfortable. She could talk well and answer questions completely.

She did not have dyspnea at rest. On examination, at the time of admission, she was stable. Evaluation of the vital signs showed a temperature of 37 °C, heart rate 110 beats/min, blood pressure 110/80 mmHg, and respiratory rate 18 breaths/min.

Jugular venous pressure was raised. The respiratory sounds were normal in the left hemithorax but were decreased in the right hemithorax. The heart sounds were muffled. Also, she had paradoxical pulse and 1+pitting edema in the lower limbs. Electrocardiogram at the time of admission revealed sinus tachycardia and low voltage of the QRS complex. QRS is the second wave in a normal electrocardiogram and it shows the depolarization of the ventricles of a heart (Fig. 2).

On the initial echocardiogram, in apical four-chamber view, left ventricular ejection fraction was 65% and good, a 3.6-cm pericardial effusion was seen, and echocardiographic tamponade was detected. Additionally, the right ventricle was collapsed in diastole (Fig. 3).

Based on the massive pericardial effusion, emergency pericardiosynthesis and thoracoscopic pericardial window were recommended; 2.5 L of blood-stained fluid was drained. The result of the pericardial effusion analysis showed a white blood cell count of  $5.34 \times 10^6$  cells/L including 5%

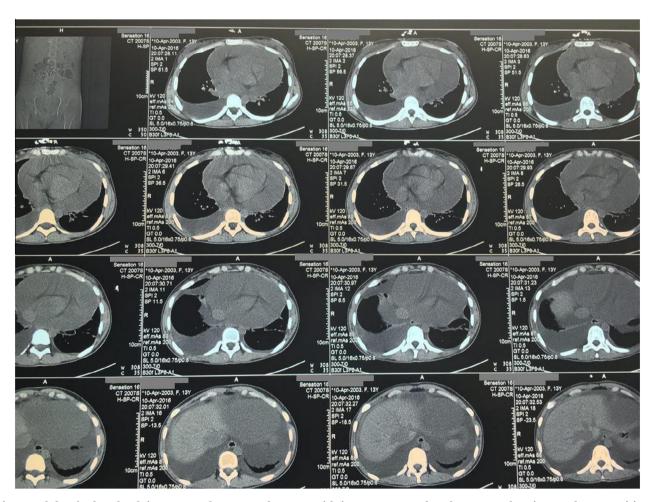


Fig. 1 – Abdominal and pelvic computed tomography scan with intravenous and oral contrast showing moderate ascities, right-sided pleural effusion, and massive pericardial effusion.

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