

## CASE REPORT

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# Tuberculous pericarditis in acquired immune deficiency syndrome patients\*

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Two quite dyspneic HIV positive patients were admitted to the Emergency Room; they presented clinical signs and images suggesting pericardial effusion. The analysis of an initial liquid puncture did not show any specificity and the patients did not exhibit any clinical improvement. Both patients were submitted to a subxiphoid pericardial window, all the effusion liquid was drained, and a biopsy of the pericardium tissue was completed, revealing a granulomatous process. Immediately after the onset of specific treatment, the patients showed a good evolution. Such findings draw attention to a high possibility of pericardial suffusion in AIDS patients being tuberculosis, particular if one considers the high prevalence of this disease in Brazil. The results also showed that the opening of a subxiphoid pericardial window and the specific triple scheme was a procedure that led to good therapeutic evolution in these patients. (*J Pneumol* 2003;29(2):98-100)

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*Key words* – Pericarditis. AIDS. Tuberculosis. Pericardial window.

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### *Abbreviations used in this article*

AIDS – Acquired immunodeficiency syndrome  
HIV – Human immunodeficiency virus  
KB – Koch's bacillus

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## INTRODUCTION

Currently, the large amount of pericardial effusions are related to AIDS pathologies<sup>(1,2)</sup> and, due to the high prevalence in our country, tuberculosis must always be recalled as one etiology of pericarditis in patients with HIV.

However, diagnostic difficulties may occur by the simple analysis of pericardial liquid obtained by puncture, which may not show specificity. This fact leads us to perform a biopsy.

This situation took place with two of our patients. Their reports will help us to conduct this association better.

## CASE REPORTS

### **Case 1**

31 year-old HIV-positive man, being treated with anti-viral drugs as well as trimethoprim and

sulfamethoxazole for pneumocystosis. Admitted at the emergency room with intense dyspnea.

He had a fever (T 37.6°C), was tachycardiac (P 120 bpm) and the simple thoracic radiography showed an increase of the cardiac area with diffuse interstitial pulmonary infiltration, which was interpreted as pneumocystosis and treated with trimethoprim and sulfamethoxazole (Figure 1).

We hypothesized a pericardial effusion, which was confirmed by echocardiographic exam.

Having been submitted to a pericardial puncture, approximately 150 ml of a citric-yellow liquid was removed, showing 54% of lymphocytes, 40% of neutrophils, 4.2 g/l of protein, 18 g/l of glucose. Negative ADA. A sample was sent for KB culture. Due to the worsening of the dyspnea and the clinical features, a subxiphoid pericardial window and biopsy were performed under general anesthesia and approximately 280 ml of liquid was removed and a drain was kept in the mediastinum.

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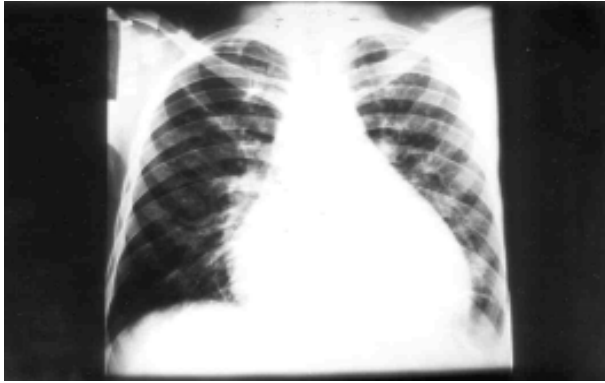
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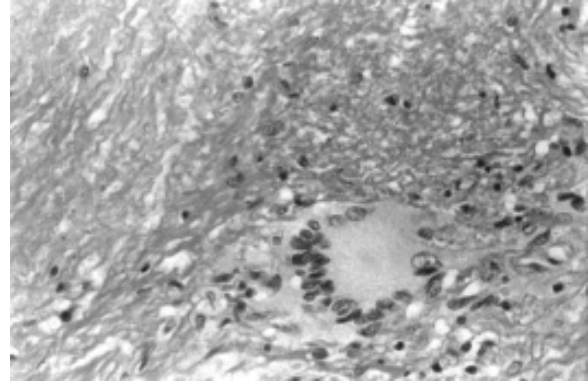
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**Figure 1** – Simple posterior-anterior thoracic X-Ray of the first patient, showing an increase of the cardiac area, suggesting pericardial effusion and diffuse interstitial pulmonary infiltration.



**Figure 2** – Histological slide dyed with hematoxylin-eosin, in larger view (250x) of the pericardial tissue of the first patient. Casein necrosis areas surrounded by Langhans cells and lymphocytic infiltration.

There was a fast improvement of the dyspnea and the result of the biopsy revealed tuberculous pericarditis (Figure 2), allowing the introduction of a triple schedule, resulting in a significant and fast improvement of the patient's status.

KB culture took 45 days and was also positive.

The patient was followed-up for 9 months and there was no relapse of the symptoms.

### Case 2

45 year-old man, admitted into the emergency room with cough and intense shortness of breath. At the clinical examination he was quite dyspneic, tachycardiac and with fever (T 37.9°C). The simple thoracic radiography showed increased cardiac area and multiple sites of pulmonary condensation.

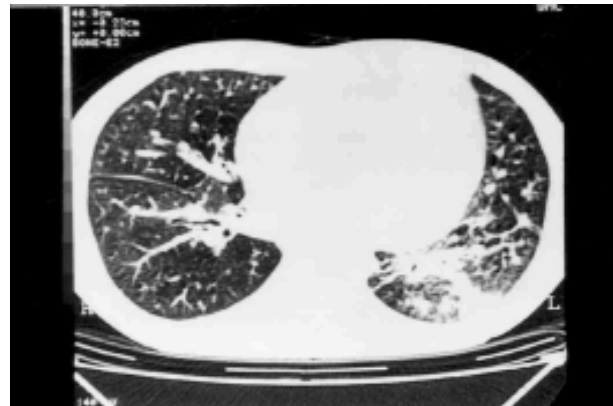
Computer assisted tomography evidenced zones of alveolar condensation and reticular-node interstitial infiltration (Figure 3), which were interpreted as probable tuberculosis, not confirmed by the bacterioscopic exam.

HIV serology was positive (Elisa and Western blot) and the pericardial effusion was confirmed by echocardiographic exam.

The patient was submitted to a pericardial puncture with removal of approximately 120 ml of a yellow-citric liquid, with 40% of neutrophils, 60% of lymphocytes, 26 g/l of glucose, 3.8 g/l of proteins, negative ADA and negative bacteriology.

Due to a progressive increase of the dyspnea, he was submitted to a subxiphoid pericardial window under general anesthesia, removing 240 ml of a yellow-citric liquid. After the surgery, there was a clear improvement of the dyspnea and the histopathological exam also revealed tuberculous pericarditis.

After the first days of triple schedule, there was a fast improvement of the patient's status, as well as of the



**Figure 3** – Computer assisted tomography of the second patient. Enlargement of the cardiac area and diffuse reticular-nodular interstitial pulmonary infiltration and areas of alveolar condensation.

pulmonary features. During a nine month follow-up, there was no sign of relapse of the disease.

## DISCUSSION

Before AIDS appearance, pericardial effusions were mainly caused by uremia, malignancies and viral pericarditis<sup>(1)</sup>.

Nowadays, in large urban centers, etiology of pericarditis is mainly related to the AIDS-associated pathologies<sup>(2)</sup>. In African countries, tuberculosis is responsible for 100% of pericarditis cases in individuals with this syndrome<sup>(3,4)</sup>.

We believe that, in Brazil, tuberculous pericarditis has a major role among pericardial effusions of HIV. However, due to the possibility of association with multiple opportunistic agents, which may also cause pericardial effusion and the low specificity of liquid

analysis, there is still some difficulty to support the diagnosis.

Pericardial effusion may be the main sign of localized or spread tuberculosis and, usually, results in endangering the pericardial sac by mediastinal lymphonodus contaminated by mycobacterium<sup>(5,6)</sup>.

Usually, pericardial liquid is a yellow-citric exudate with high number of lymphocytes and low glucose. Its culture does not always result bacillus positive. If not conveniently emptied, it will evolve to formation of fibrin, septation and granuloma with adherence and thickening of leaflets, developing to constrictive chronic pericarditis. Corticoids are known to be beneficial, hindering liquid re-accumulation, but the literature still lacks data on the prevention of constrictive pericarditis<sup>(7)</sup>.

The complete and permanent drainage of the effusion liquid would be the best way to avoid future constriction of the heart chambers<sup>(8)</sup>.

It is therefore essential to remove the effusion liquid and to perform the histopathologic exam of the pericardium for diagnosis confirmation.

The subxiphoid pericardial window is a low morbidity surgical procedure; it allows a total drainage of the

effusion liquid and the removal of a fragment the impaired tissue. In patients with precarious conditions, it can be done under local anesthesia<sup>(9-11)</sup>.

In a review of 29 AIDS cases with pericardial effusion, submitted to a pericardial window or to a thoracotomy, Flum et al.<sup>(12)</sup> concluded that pericarditis in AIDS patients is associated with a bad prognosis. Such surgical procedures would not be beneficial to the patients due to post-operative complications.

Our patients were quite dyspneic and the pericardial window allowed a fast clinical improvement. The biopsy allowed the adequate treatment, with a good evolvement of the patients.

We believe that, in our environment, in HIV patients who develop a pericardial effusion and present an inconclusive result in the liquid obtained by puncture, there is a great possibility to treat tuberculosis. In this case, the subxiphoid pericardial window constitutes an adequate conduct.

This procedure would allow a biopsy to be performed, shaping the diagnostic and the total and permanent drainage of the effusion liquid, preventing constrictive pericarditis.

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