

Cardiac Tamponade with Fibrin Strands Leading to the Diagnosis of Multifocal Systemic Tuberculosis

Junior Rocyr Ibara-Onguema^{1*}, Khaoula Bourzeg¹, Franck Bienvenu Ekoba Othende Mohammed El Jamili¹, Saloua El Karimi¹, Mustapha El Hattouai¹

¹Cardiology Department, Mohammed VI University Hospital, Marrakesh, Morocco

DOI: [10.36347/sjmcr.2023.v11i02.032](https://doi.org/10.36347/sjmcr.2023.v11i02.032)

| Received: 25.12.2022 | Accepted: 01.02.2023 | Published: 28.02.2023

*Corresponding author: Junior Rocyr Ibara-Onguema

Cardiology Department, Mohammed VI University Hospital, Marrakesh, Morocco

Abstract

Case Report

Tuberculosis continues to be a major health problem, where an estimated 7–8 million new cases are diagnosed each year. Multifocal tuberculosis is characterized by the presence of large multifocal tuberculous areas in the same or different organs. Difficulty in diagnosis of multifocal tuberculosis and consideration of other diseases may lead to a delay in diagnosing this entity. We report the case of a young patient hospitalized for tamponade revealing a multifocal tuberculosis whose evolution was favorable after drainage and under antibacillary treatment. This to conclude that because of its propensity to cleverly mimic many diseases and affect multiple organ systems and sites, a high index of suspicion for multifocal TB should be maintained with patients presenting with multiple sites of involvement, especially in immunocompromised patients and those from countries where TB is endemic.

Keywords: Multifocal tuberculosis, pericardial effusion, tamponade, pericardiocentesis.

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INTRODUCTION

Tuberculosis is a major public health problem: according to the World Health Organization, 10 million people contracted tuberculosis in 2018; it is responsible for 1.2 million deaths in HIV-negative patients and is the leading cause of death from a single infectious agent, ahead of HIV [1]. Its pulmonary localization remains by far the most frequent; however, extrapulmonary attacks, particularly pericardial, are possible [2]. Multifocal tuberculosis is defined as involvement of at least two extrapulmonary sites with or without pulmonary involvement [3]. To improve its prognosis, the diagnosis must be early and consequently the treatment.

CASE REPORT

A 20-year-old patient, whose medical history was not remarkable, presented with NYHA stage III dyspnea associated with positional precordial evolving for 1 and a half months, which had worsened for two weeks with the appearance of a tumor of the lower limbs associated with a dry cough, all evolving in a context of febrile sensation and alteration of the general state made of a weight loss of 9kg, asthenia and

anorexia. Moreover, the patient reported the notion of a mucous diarrhea for 2 weeks with abdominal pain.

Physical examination noted a conscious patient with fever to touch, a BP of 85/43 mmHg and a paradoxical pulse of 16 mmHg, a heart rate of 128 bpm, a respiratory rate of 40c/min, muffled heart sounds, and spontaneous turgidity of the jugular veins and lower extremity edema. The electrocardiogram was in regular sinus rhythm with diffuse micro-voltage and electrical alternation (Figure 1); and the chest X-ray showed significant cardiomegaly and diffuse alveolar-interstitial syndrome as well as micronodules in both lung fields (Figure 2). A 2-dimensional transthoracic echocardiogram revealed a large circumferential pericardial effusion (Figure 3), with conspicuous intrapericardial adhesions (fibrin strands) that had a wormlike appearance and were partially attached and floating between the visceral and parietal pericardium with systolo-diastolic VD collapse, presence of significant respiratory variations and an uncompliant dilated IVC at 23 mm. A surgical drainage was indicated because of the importance of the importance of fibrinous deposits and adhesion, bringing back 1800cc of a bloody fluid. The pericardial fluid study revealed an exudative fluid with the presence of BAARs by

Genexpert without malignant cells. A thoracic-abdominal-pelvic CT scan was performed as part of the extension work-up, showing diffuse pulmonary bronchopneumonia with adenopathy above and below the diaphragm, polyseritis, and jejunal thickening, suggesting multifocal tuberculosis at first. The rest of

the etiological workup was unremarkable, as were the serologies. We therefore retained the diagnosis of multifocal tuberculosis, revealed by a tamponade. The patient was put under anti-bacillary treatment with corticotherapy with good clinical, biological and echocardiographic improvement.

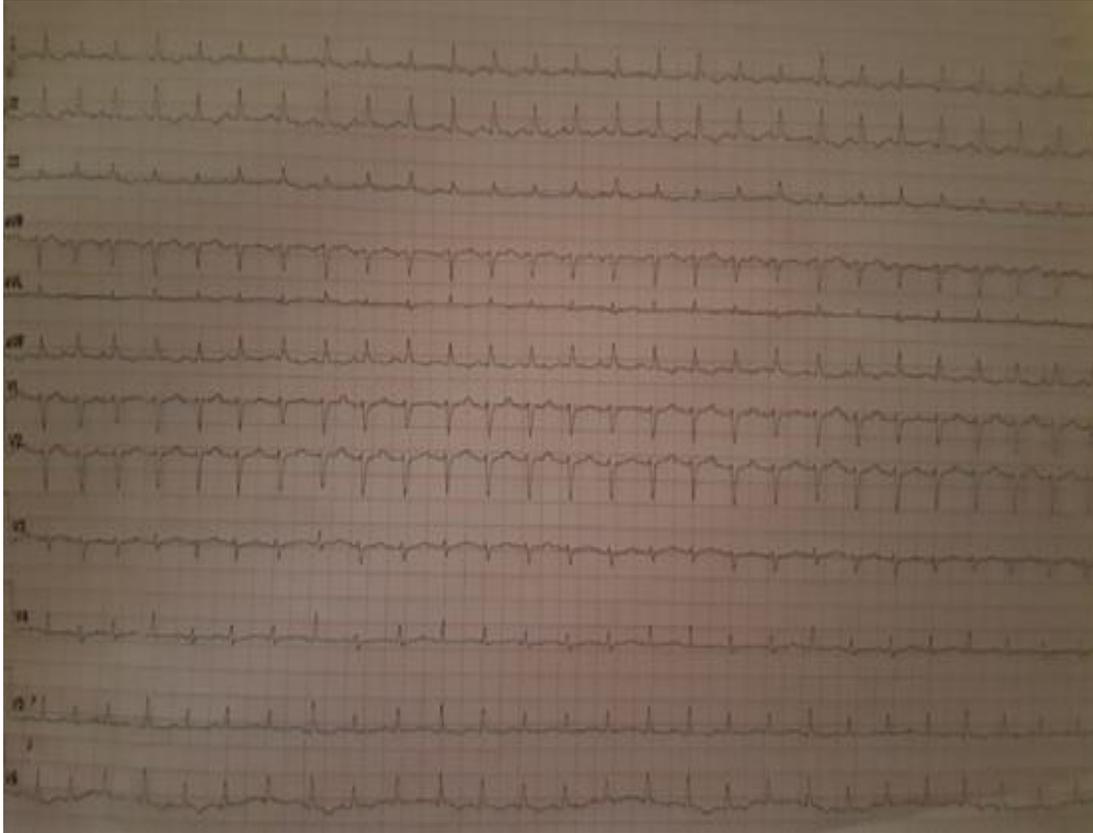


Figure 1: ECG showing a regular sinus rhythm with microvoltage and electrical alternation

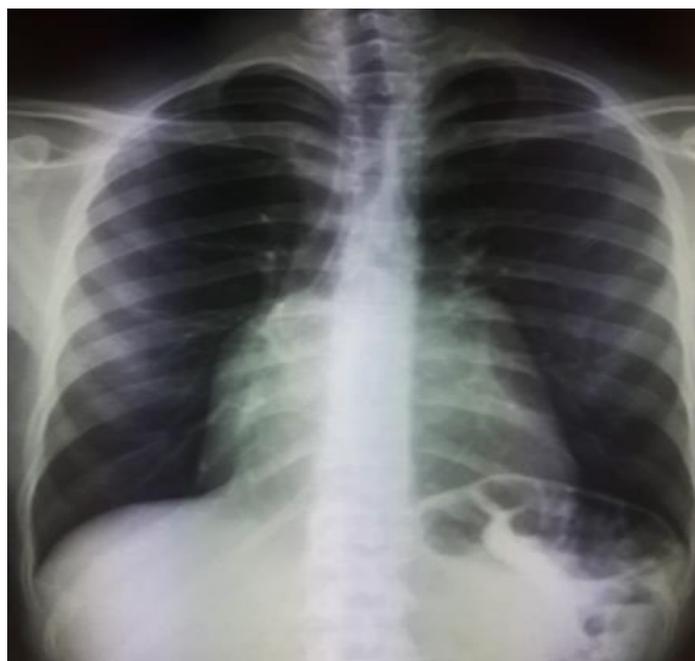


Figure 2: Frontal chest radiograph showing cardiomegaly with diffuse alveolar-interstitial syndrome

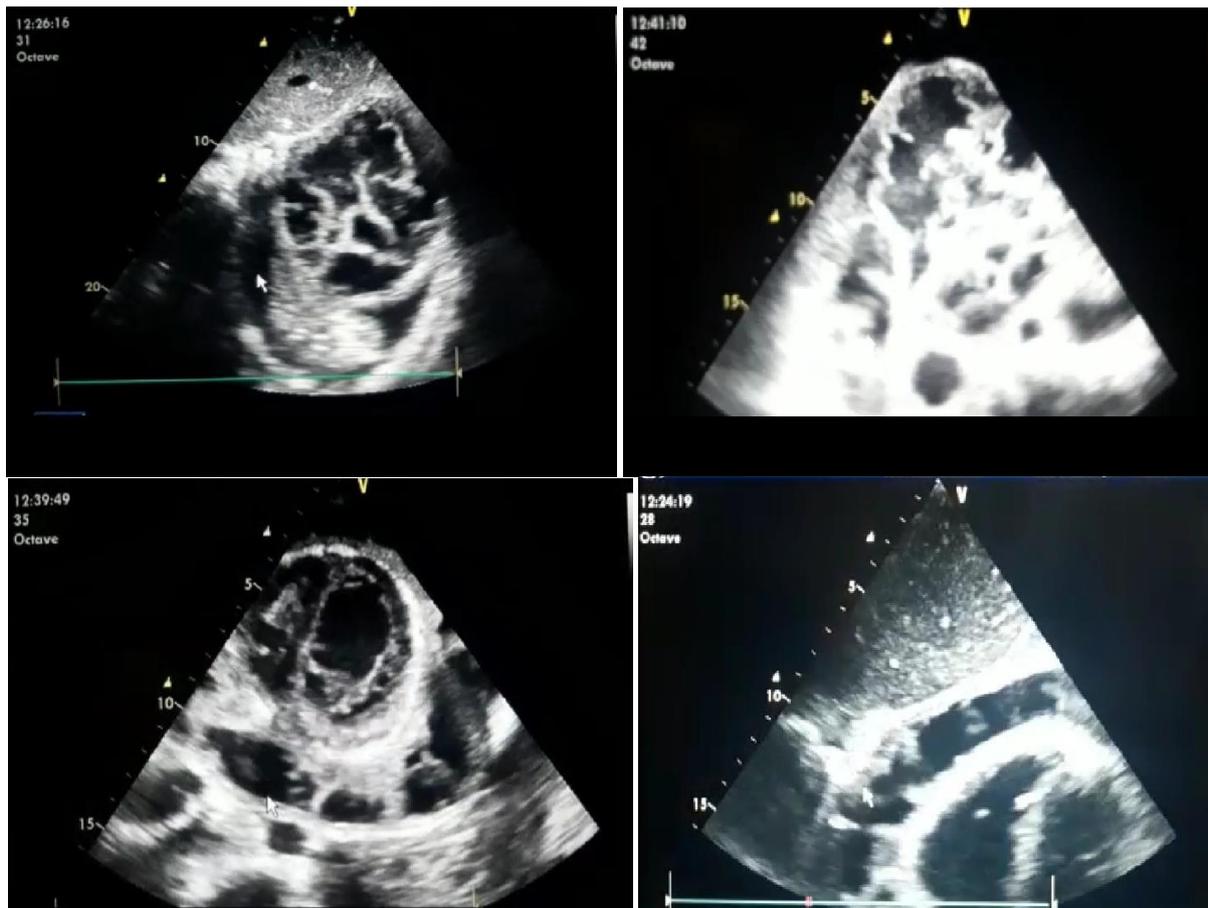


Figure 3: 2D transthoracic echocardiogram in the apical 4-chamber view of the heart and modified apical views revealed a large circumferential pericardial effusion, with intrapericardial adhesions (fibrin strands) partially attached and floating between the visceral and parietal pericardium

DISCUSSION

Tuberculosis is a major health problem in the world in general and in Africa in particular [1]. Multifocal tuberculosis remains a rare condition representing 9 to 10% of cases [3] and grave, mortality reaches 16 to 25% [4]. Cardiac complications are possible but pericardial involvement is by far the most frequent [5] with a prevalence of approximately 1 to 8% in the general literature according to Sida-Diaz [6]. This prevalence can reach 65% in the case of HIV [5, 6]. In developing countries, tuberculosis is the leading cause of pericarditis [7]. Tuberculous pericarditis mainly affects young subjects under 40 years of age [8].

The diagnosis of tuberculous pericarditis should be clinical in the presence of classical signs of tuberculous impregnation associated with a chronic cough, often dry, precordial chest pain and a pericardial effusion syndrome as well as other accompanying signs depending on the extension and the organ affected. Indeed, pericardial effusion is characterized by its abundance, often circumferential, which can quickly put at risk the vital prognosis by a tamponade [9, 10]. A South African study on the epidemiology of pericardial effusion showed that in 69.5% of cases, large effusions were of tuberculous origin [5]. Two-dimensional

echocardiography remains essential for the diagnosis because the clinical picture can be insidious with an inaugural tamponade [6, 11]. However, the etiological diagnosis often poses a problem [6]. For most patients the diagnosis was retained on the basis of epidemiological, clinical, echographic arguments and indirect signs of tuberculosis in the pericardial puncture fluid. Suspicion of multifocal tuberculosis requires a systematic extension workup.

The good evolution under antibiologic treatment is an argument in favor of the management of tuberculosis [12]. The prognosis depends on the rapidity of the diagnosis. Indeed, chronic constrictive pericarditis is always to be feared, Imazio reported in a study of a cohort of 500 cases of pericarditis a constriction rate of 31.65 per 1000 for tuberculous pericarditis [13].

CONCLUSION

It seems that the effusions of tuberculous pericarditis should be drained because of their abundance and rapid reconstitution the prognosis depends on the rapidity of the diagnosis and it is always necessary to fear the chronic constrictive pericarditis this relaunches the question of the prevention of

tuberculosis and especially of the tuberculous primo infection.

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