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Postpartum cardiomyopathy: A diagnosis made at the emergency department

Rodrigo Rufino[1]*; Mariana Santos[2]; Mariana Coelho[1]; Alexandra Albuquerque[1]; Patrícia Ferreira[1]

[1]Internal Medicine Department, Centro Hospitalar Barreiro-Montijo, Portugal.

[2]Cardiology Department, Centro Hospitalar Barreiro-Montijo, Portugal.

***Corresponding Author: Rodrigo Rufino**
Internal Medicine Department, Centro Hospitalar Barreiro-Montijo, Portugal.
Email: rodrigorufino@campus.ul.pt.

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Abstract

Peripartum cardiomyopathy (PCM) a rare cause of heart failure (HF) that may develop in the last month of pregnancy or within five months of childbirth. The most common clinical symptom is dyspnea, making its diagnosis challenging as a high suspicion and detail to medical history is needed. The authors present a case of a 33-year-old female, that recurred to the Emergency Department with fatigue and dyspnea with two and a half months duration. On anamnesis, she refers childbirth three months ago, with symptoms appearing two weeks after. An elevated NT pro-BNP and consequent transthoracic echocardiogram showed systolic dysfunction of the left ventricular (LV) with LV ejection fraction between 20 and 25%. Other causes of HF were excluded, making the diagnosis of PCM. The case shows the need to value the patients' symptoms and clinical history in order make this differential diagnosis.

Keywords: Peripartum Cardiomyopathy; Postpartum; Heart Failure; Systolic Disfunction; Emergency Department.

Introduction/background

Peripartum cardiomyopathy (PCM) is a rare cause of heart failure (HF) [1]. According to the 2010 European Society of Cardiology (ESC) Working Group on Peripartum Cardiology PCM is defined as the development of HF in the last month of pregnancy or within five months following delivery; absence of another identifiable cause for the HF and left ventricular (LV) systolic dysfunction with an LV ejection fraction (LVEF) of less than 45 percent, with or without LV dilation [2]. During pregnancy there are various maternal cardiovascular changes that culminate in an enhanced oxidative stress, cleavage of prolactin, and impaired vascular endothelial growth factor (VEGF) signalling [1]. Women over 30 years, of African descent, with multiple gestation pregnancy, prior or concurrent preeclampsia, eclampsia, postpartum hypertension, maternal cocaine abuse, or parity ≥4 are at greater risk of developing PCM [3]. Patients may present with dyspnea, cough, orthopnea, paroxysmal nocturnal dyspnea, pedal edema, and hemoptysis [4]. The aim of this article is to show an unusual case of a women with dyspnea and fatigue developed after childbirth, showing the importance of correlation of the patient's symptoms with their clinical history, in order to make a prompted diagnosis.

Case description

A 33-year-old melanodermic woman, without chronic illnesses, presented to the Emergency Department (ED) one month after childbirth, reporting fatigue and dyspnea that have been evolving for about two weeks. Presuming a respiratory infection, she was medicated with azithromycin. Despite medication, her symptoms persisted, leading her to return to the ED

after one month. When questioned, she mentioned orthopnea and paroxysmal nocturnal dyspnea since the onset of her symptoms. At admission, she presented on pulmonary auscultation bilateral basal crepitant rales. Laboratory analysis revealed an elevated N-terminal prohormone of brain natriuretic peptide (NT pro-BNP) level of 3291 pg/mL, without changes in blood count, renal and thyroid function, C-reactive protein, and myocardial necrosis markers. The electrocardiogram showed only a sinus tachycardia with 116 beats per minute. A computed tomography with angiography showed no abnormal findings, namely pulmonary embolism. Given these results, an urgent Cardiology evaluation was requested and a transthoracic echocardiogram was performed, revealing a severe left ventricular dysfunction with an estimated LVEF between 20 and 25%. There was also a slight anterior pericardial effusion without hemodynamic compromise and no other significant alterations. Due to symptoms and temporal context, the patient was admitted to the Cardiology Department with the provisional diagnosis of PCM. During the patients' admission she underwent an elective transthoracic echocardiogram excluding pre-existent cardiomyopathy (namely hypertensive cardiomyopathy), valvular disease and congenital disease. The patient had a favourable evolution and with discharged oriented to Cardiology consultation.

Discussion

The diagnosis of PCM may be challenging as patients often present with symptoms similar to those with other forms of systolic HF secondary to cardiomyopathy and may mimic normal physiological findings of pregnancy. Seventy eight percent of patients develop symptoms in the first 4 months after delivery and a small percentage (9%) may develop signs in the last month of pregnancy [1]. The majority of patients present with New York Heart Association (NYHA) functional class III or IV symptoms [1,5]. In order to establish the diagnosis of PCM pre-existing cardiomyopathy, valvular disease and undetected congenital heart disease must be excluded, as well as diastolic HF due to hypertensive heart disease, myocardial infarction and pulmonary embolism [1]. The case presented describes a patient that initiated mild symptoms of fatigue and dyspnea, one month after childbirth. On initial evaluation these symptoms were interpreted as a respiratory infection. On secondary analysis and due the worsening for symptoms, the patients' medical history was taken into account and the suspicion of PMC was raised. This case reinforces the importance of combining the patient's symptoms and clinical history with the findings in complementary diagnostic exams, in order not to miss the diagnosis.

Conclusions

PCM is a disease that may affect women in the last month of pregnancy or after childbirth. As the clinical presentation is often dyspnea, a common symptom in many other diseases and often seen in pregnancy, the suspicion of PCM may be devalued. Therefore, this case demonstrates the importance characterizing the patients' symptoms and combining these findings with their clinical history so we can direct our diagnostic march and lead to this not so usual clinical identity.

Disclosure

Conflict of interest: The authors declare no conflict of interest.

Patient consent: Written informed consent from patients was obtained, to secure permission for publishing their clinical history.

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References

1. Sliwa K, Hilfiker-Kleiner D, Petrie MC, et al.: Heart Failure Association of the European Society of Cardiology Working Group on Peripartum Cardiomyopathy. Current state of knowledge on aetiology, diagnosis, management, and therapy of peripartum cardiomyopathy: a position statement from the Heart Failure Association of the. European Society of Cardiology Working Group on peripartum cardiomyopathy. Eur J Heart Fail. 2010; 12: 767-78.

2. Bauersachs J, König T, van der Meer P, et al. Pathophysiology, diagnosis and management of peripartum cardiomyopathy: a position statement from the Heart Failure Association of the. European Society of Cardiology Study Group on peripartum cardiomyopathy. Eur J Heart Fail. 2019; 21: 827-843.

3. Elkayam U, Akhter MW, Singh H, et al. Pregnancy-associated cardiomyopathy: clinical characteristics and a comparison between early and late presentation. Circulation. 2005; 26: 2050-5.

4. Demakis JG, Rahimtoola SH, Sutton GC, et al. Natural course of peripartum cardiomyopathy. Circulation. 1971; 44: 1053-61.

5. Sliwa K, Mebazaa A, Hilfiker-Kleiner D, et al. Clinical characteristics of patients from the worldwide registry on peripartum cardiomyopathy (PPCM): EURObservational Research Programme in conjunction with the Heart Failure Association of the. European Society of Cardiology Study Group on PPCM. Eur J Heart Fail. 2017; 19: 1131-1141.