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(CASE REPORT)

Acute Peripartum Myocarditis Mimicking Acute Coronary Syndrome: A Case Report

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Abstract

Acute myocarditis occurring during pregnancy or the peripartum period is a rare but potentially serious condition, with a polymorphic clinical presentation that may mimic acute coronary syndrome, making diagnosis challenging. We report the case of a 30-year-old woman, G3P2, admitted at 38 weeks and 3 days of gestation for atypical chest pain associated with palpitations. Clinical examination revealed sinus tachycardia without signs of heart failure. Laboratory investigations showed a marked elevation of troponin with an ascending kinetic profile, while electrocardiography and transthoracic echocardiography were normal, with preserved left ventricular systolic function. After exclusion of the main coronary etiologies and multidisciplinary discussion, the diagnosis of acute peripartum myocarditis was retained. This case highlights the importance of considering acute myocarditis in pregnant or peripartum women presenting with chest pain and elevated troponin levels, even in the absence of electrocardiographic or echocardiographic abnormalities.

Keywords: Acute Myocarditis; Pregnancy; Peripartum; Chest Pain; Troponin

1. Introduction

Acute myocarditis is defined as inflammation of the myocardium, most often of viral or immunological origin. Its clinical presentation is highly variable, ranging from isolated chest pain to severe forms of heart failure or life-threatening arrhythmias.

During pregnancy and the peripartum period, myocarditis is rare but represents a major diagnostic challenge. Physiological changes related to pregnancy, limitations in the use of certain diagnostic investigations, and the need to protect the fetus complicate patient management. We report a case of acute peripartum myocarditis revealed by chest pain mimicking an acute coronary syndrome.

2. Case Presentation

A 30-year-old woman, G3P2, with no known medical or cardiovascular history, presented to our department. Family history revealed parental arterial hypertension. The current pregnancy had been regularly followed without complications and was estimated at 38 weeks and 3 days of gestation.

The patient consulted for atypical chest pain associated with palpitations, which had first appeared one week earlier with spontaneous resolution, followed by recurrence. On admission, she was conscious, afebrile, and hemodynamically stable, with a blood pressure of 100/60 mmHg and a heart rate of 128 beats per minute. Cardiopulmonary examination

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showed no signs of heart failure. Obstetrical examination was reassuring, with a regular fetal heart rate of 140 beats per minute.

Electrocardiography revealed sinus rhythm without conduction or repolarization abnormalities. Laboratory investigations showed an elevated troponin level of 128 ng/L, rising to 4380 ng/L after six hours, with normal complete blood count and serum electrolytes. Transthoracic echocardiography demonstrated a non-dilated left ventricle with preserved systolic function, no regional wall motion abnormalities, and no pericardial effusion.

After multidisciplinary discussion, acute coronary syndrome and spontaneous coronary artery dissection were considered unlikely. The diagnosis of acute peripartum myocarditis was therefore retained. The patient was treated with beta-blockers and closely monitored, with a favorable clinical outcome.

3. Discussion

Acute myocarditis occurring during pregnancy or the peripartum period is a rare entity that is probably underdiagnosed due to its polymorphic clinical presentation and the diagnostic challenges specific to this period. The pathophysiological mechanisms are complex and multifactorial, involving immunological, inflammatory, and hormonal factors. Pregnancy is characterized by immune system modulation aimed at fetal tolerance, which may promote an abnormal myocardial inflammatory response to viral agents or autoimmune mechanisms, particularly during the peripartum period.

Clinically, acute myocarditis may present with a wide spectrum of symptoms, ranging from isolated chest pain to severe heart failure or arrhythmias. Presentation with chest pain associated with significant troponin elevation, as observed in our patient, may strongly suggest an acute coronary syndrome. This differential diagnosis is particularly challenging in pregnant women, in whom specific etiologies such as spontaneous coronary artery dissection must also be considered.

Electrocardiography may be normal in paucisymptomatic forms of myocarditis, limiting its diagnostic value. Similarly, a transthoracic echocardiogram showing preserved left ventricular systolic function does not exclude the diagnosis, as segmental wall motion abnormalities or global dysfunction are not constant. Cardiac magnetic resonance imaging is currently the reference diagnostic tool for myocarditis due to its ability to detect myocardial inflammation and necrosis. However, its use during pregnancy remains limited because of examination constraints and fetal safety considerations, often necessitating a diagnosis based on a combination of clinical, biological, and echocardiographic findings.

Management of acute peripartum myocarditis relies primarily on close clinical and hemodynamic monitoring, along with appropriate symptomatic treatment, taking into account pregnancy-related contraindications to certain medications. Multidisciplinary collaboration between cardiologists, obstetricians, and anesthesiologists–intensivists is essential to optimize maternal and fetal outcomes. In most uncomplicated cases, prognosis is favorable, as illustrated by our observation, emphasizing the importance of early diagnosis and appropriate management.

4. Conclusion

Acute peripartum myocarditis should be systematically considered in pregnant women presenting with chest pain associated with elevated troponin levels. Early diagnosis and multidisciplinary management allow for favorable clinical outcomes.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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