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Peripartum Dilated Cardiomyopathy: A Case Study

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Introduction:

Peripartum cardiomyopathy is a rare cause of dilated cardiomyopathy occurring late in pregnancy or in the months following delivery. Diagnosis is based on the combination of clinical heart failure and left ventricular systolic dysfunction on echocardiography. Although several pathophysiological hypotheses have been put forward, the exact causes of this condition remain unknown. The outcome is unpredictable, sometimes favorable with complete remission, but often there is persistence or worsening of heart failure, which can be deleterious. The risk of recurrence in a subsequent pregnancy, despite apparent remission, is very high.

Observation:

Ms. A.M., aged 30, consulted on day 7 postpartum for NYHA stage III dyspnea with orthopnea associated with frothy sputum.

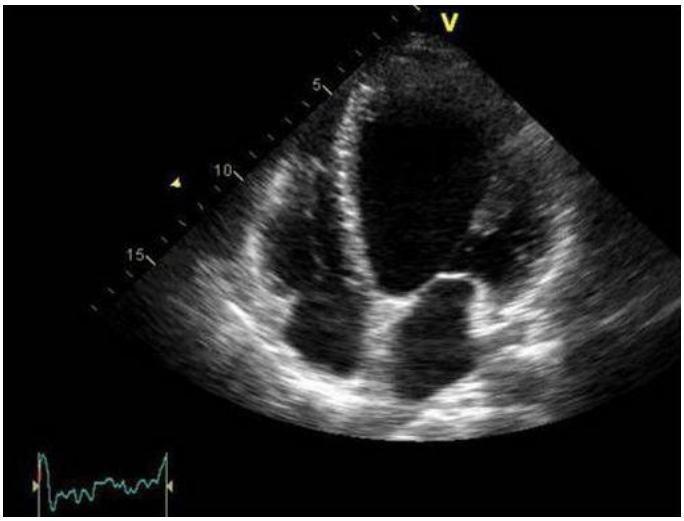
The examination on admission found a respiratory rate of 36 breaths per minute. Blood pressure was 110/60 mmHg. The patient had tachycardia at 120 beats per minute. Pulmonary auscultation revealed bilateral basal crackles. Cardiac auscultation revealed regular tachycardia with a 3/6 systolic murmur at the mitral valve.

The gynecological examination was unremarkable.

The chest X-ray revealed cardiomegaly with an ICT of 0.65. The electrocardiogram revealed sinus tachycardia.

Transthoracic echocardiography showed biventricular dilation with moderate functional mitral regurgitation, LVEF: 30%, with global hypokinesia.

The patient was placed on optimal medical treatment for heart failure. Her condition improved slightly, with her dyspnea becoming stage II.



Apical view of the four chambers showing a dilated and globular LV

Discussion:

Peripartum cardiomyopathy (PPCM) consists of systolic left ventricular dysfunction with decreased left ventricular ejection fraction (LVEF) on echocardiography, occurring in the last month of pregnancy or within 5 months after delivery. Several risk factors for PP-CMP have been identified: maternal age > 30 years, multiparity, multiple pregnancy, obesity, high blood pressure, preeclampsia, and prolonged tocolysis. Numerous pathophysiological hypotheses have been proposed, including poor adaptation to the hemodynamic changes of pregnancy associated with increased cardiac output, increased plasma volume, and altered peripheral vascular resistance. An abnormal autoimmune response to pregnancy with the expression of specific cardiac autoantibodies...

The classic picture is that of global heart failure, sometimes purely left-sided, generally severe and extremely rapid in onset, sometimes within a few hours. Chest pain is present in nearly 50% of cases, either as atypical precordial pain or anginal or even infarct-like pain. The electrocardiogram shows no specific signs, but sometimes a left bundle branch block or negative T waves. Transthoracic echocardiography is the key examination, as it confirms the diagnosis and monitors the progression of CMP-PP. It reveals ventricular dilation, a reduction in ejection fraction to less than 45%, and possible associated right ventricular involvement. It will look for complications such as intracavitary thrombosis and associated pericardial effusion. Finally, it will rule out pre-existing heart disease (hypertrophic, rheumatic valvular, ischemic). Cardiac MRI reveals late enhancement after gadolinium injection, which is not systematic, predominantly subepicardial, and whose intensity appears to correlate with prognosis and the likelihood of left ventricular functional recovery.

The treatment for CMP-PP is the same as for chronic heart failure, with a combination of beta-blockers, angiotensin-converting enzyme (ACE) inhibitors, and diuretics. In severe cases, it is sometimes necessary to resort to intravenous inotropic therapy and, given the risk of thromboembolic events, anticoagulant therapy is recommended.

In cases of persistent dysfunction, further pregnancies should be discouraged and are contraindicated due to the high risk of death.

Conclusion:

Peripartum cardiomyopathy is a serious cardiac complication of pregnancy. Often underdiagnosed and multifactorial in origin, its extremely rapid and completely unpredictable progression justifies multidisciplinary management in a specialized center in order to improve the maternal-fetal prognosis.