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Peripartum Cardiomyopathy in Late Pregnancy: A Case Report

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Abstract: Peripartum cardiomyopathy (PPCM) is an uncommon form of systolic heart failure that occurs in previously healthy women during the last month of pregnancy or within the early postpartum period. It is characterized by left ventricular systolic dysfunction and reduced ejection fraction. The clinical manifestations of PPCM, including dyspnea, fatigue, and edema, often resemble the normal physiological changes of pregnancy, which may lead to delayed diagnosis. Early recognition and prompt management are important to reduce maternal morbidity and mortality. We report a case of a 29-year-old pregnant woman diagnosed with peripartum cardiomyopathy during the third trimester. This case highlights the importance of early diagnosis, multidisciplinary management, and careful follow-up in improving maternal outcomes.

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I. INTRODUCTION

Peripartum cardiomyopathy (PPCM) is a rare but potentially life-threatening cardiac disorder that occurs toward the end of pregnancy or within five months after delivery. It is characterized by the development of heart failure due to left ventricular systolic dysfunction in women without previously known heart disease.[1]

The incidence of PPCM varies globally. In developed countries such as the United States, the condition is estimated to occur in approximately one in 2,000–2,500 live births. Higher incidences have been reported in certain developing countries, which may be related to differences in genetic predisposition, environmental factors, and access to healthcare services.[2]

The diagnostic criteria for PPCM include the development of heart failure in the last month of pregnancy or within five months postpartum, absence of an identifiable cause for heart failure, and no previous history of structural heart disease. Echocardiography usually demonstrates left ventricular systolic dysfunction with an ejection fraction of less than 45%.[3–4]

Because symptoms such as fatigue, dyspnea, and peripheral edema may resemble normal physiological changes of pregnancy, early diagnosis may be challenging. Therefore, clinicians should maintain a high index of suspicion when evaluating pregnant or postpartum women presenting with symptoms suggestive of heart failure.[9]

II. CASE REPORT

A 29-year-old multigravida presented to the outpatient department with complaints of seven months of amenorrhea associated with shortness of breath and fatigue for one week. She was a known case of epilepsy for the past ten years and was receiving treatment with tablet levetiracetam 500 mg twice daily.

On examination, her pulse rate was 98 beats per minute, respiratory rate was 36 breaths per minute, and blood pressure was 100/70 mmHg. Cardiovascular and respiratory system examinations did not reveal any significant abnormalities. Laboratory investigations showed a hemoglobin level of 10 g/dL, while liver and kidney function tests were within normal limits. Electrocardiography demonstrated sinus tachycardia with abnormal Q waves.

The patient was admitted for further evaluation. Echocardiography revealed global hypokinesia with left ventricular dysfunction and an ejection fraction of 45%. A cardiology consultation was obtained, and the patient was started on intravenous furosemide. Following treatment, her symptoms improved and she was discharged in stable condition.

After one month, the patient returned with similar complaints along with decreased perception of fetal movements. A non-stress test was performed and found to be non-reassuring. Repeat echocardiography showed a reduction in ejection fraction to 40%. After obtaining cardiology and neurology clearance, a decision was made to proceed with cesarean section.

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The patient underwent cesarean delivery and delivered a male baby weighing 2.2 kg. The intraoperative and postoperative periods were uneventful. Postoperatively, she was treated with tablet Lasilactone, following which her symptoms improved. She was discharged on postoperative day seven.

During follow-up evaluation, repeat echocardiography demonstrated improvement in cardiac function, with the ejection fraction increasing to 50%.

III. DISCUSSION

Peripartum cardiomyopathy is an uncommon but serious cardiac condition associated with pregnancy. In India, studies have reported an incidence of approximately one case per 1,374 live births.[5] Early recognition is essential because delayed diagnosis may lead to severe maternal complications.

Several maternal factors have been associated with PPCM, including multiparity, advanced maternal age, and hypertensive disorders of pregnancy such as preeclampsia.[7–8] However, the exact etiology of PPCM remains unclear. Various mechanisms have been proposed, including myocardial inflammation, genetic predisposition, autoimmune responses, and hormonal imbalance.[6]

The clinical manifestations of PPCM often resemble normal physiological changes of pregnancy. Symptoms such as dyspnea, fatigue, and peripheral edema may initially be overlooked, leading to delayed diagnosis. Echocardiography is the most important diagnostic tool for confirming left ventricular systolic dysfunction.

Management of PPCM is similar to the treatment of other forms of heart failure but requires certain modifications during pregnancy. Treatment generally includes fluid restriction, diuretics, beta-blockers, and supportive therapy. Angiotensin-converting enzyme inhibitors and angiotensin receptor blockers are contraindicated during pregnancy but may be used in the postpartum period.[7] Hydralazine can be used to reduce afterload during pregnancy, and diuretics should be administered cautiously to avoid dehydration and reduced placental perfusion.

Patients with PPCM are also at increased risk of thromboembolic events due to reduced cardiac function and the hypercoagulable state associated with pregnancy. Therefore, anticoagulation therapy may be considered in selected high-risk patients with severe left ventricular dysfunction.[10]

Recovery of cardiac function occurs in approximately half of affected patients. However, recurrence may occur in subsequent pregnancies, and therefore women with a history of PPCM should receive appropriate counseling regarding future pregnancies.[7]

IV. CONCLUSION

Peripartum cardiomyopathy should be suspected in pregnant or postpartum women presenting with symptoms suggestive of heart failure, particularly when no prior cardiac disease is present. Early evaluation with echocardiography is essential for confirming the diagnosis and assessing the severity of left ventricular dysfunction. Prompt initiation of appropriate therapy tailored to pregnancy and the postpartum period can significantly improve maternal outcomes. Long-term follow-up and counseling regarding future pregnancies are important components of patient management.

➢ *Learning Points*

- Peripartum cardiomyopathy should be suspected in pregnant women presenting with unexplained dyspnea or fatigue.
- Echocardiography is essential for early diagnosis and assessment of cardiac function.
- Timely multidisciplinary management improves maternal and fetal outcomes.

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