

A case of peripartum cardiomyopathy presenting as bilateral acute limb ischaemia and gangrene

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Abstract

Peripartum cardiomyopathy (PPCM) is a condition of unknown etiology that presents as heart failure due to left ventricular systolic dysfunction in the last of month of pregnancy and up to six months after giving birth. PPCM predisposes towards thrombo-embolism and an acute limb ischaemia can be a manifestation of this disease. We present a case of a 23-year-old lady presenting an acute lower limb ischaemia four months post-partum. Doppler ultrasound showed bilateral femoral emboli and cardiac ECHO showed a 24% ejection fraction. Amputation was performed on both limbs, below her right knee and above her left knee. The patient was started on heart failure medication and her symptoms improved with diuretic therapy, confirming the diagnoses of PPCM. It is important to recognise acute limb ischaemia as a rare manifestation of PPCM, as a timely diagnosis and effective treatment of the disease can improve the prognosis. We believe this is the first case to be reported in medical literature from Pakistan of a patient presenting PPCM with bilateral acute limb ischaemia and gangrene.

Keywords: PPCM, Acute Limb Ischemia, ECHO, Doppler Ultrasound, Amputation.

Introduction

Peripartum cardiomyopathy (PPCM) is a condition of unknown etiology that presents as heart failure due to left ventricular systolic dysfunction in the last of month of pregnancy and up to six months after giving birth and manifests in women without any previous known heart disease.¹ Incidence and prevalence of PPCM varies worldwide. The exact incidence of peripartum cardiomyopathy is undetermined, but it is expected to occur in one out of every 3,000 to 4,000 pregnancies. According to one study reported, the prevalence of PPCM in a tertiary care hospital of Karachi was 1 per 837 deliveries.² Diagnosis of PPCM can be overlooked because

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its manifestation maybe similar to symptoms of normal pregnancy. Common manifestation of PPCM includes shortness of breath, paroxysmal nocturnal dyspnea, cough, haemoptysis and chest pain.³

In rare cases thromboembolism, an acute limb ischaemia can be a manifestation of PPCM which requires urgent diagnosis and intervention. We present a case of PPCM in a 23-year-old lady presenting as bilateral lower limb ischaemia and gangrene that required bilateral limb amputation. Previously, 5 cases of PPCM have been reported in the medical literature that had manifested as acute limb ischaemia. We believe this is the first case to be reported from Pakistan of a PPCM presenting with bilateral acute limb ischaemia and gangrene.

Case Report

On January 2018, a 23-year-old Gravida 1, para 1 (G1P1) female patient presented in the emergency department of Khyber Teaching Hospital with primary complaint of bilateral lower limb pain, paresthesia, numbness and discolouration. She also complained of having shortness of breath, paroxysmal nocturnal dyspnoea and cough. She was four months post-partum. Arterial Doppler study of both lower limbs revealed normal venous flow (Figure-1) and showed thrombosis of right femoral and popliteal arteries with total loss of flow. Also due to thrombosis there was a total loss of flow in the upper femoral artery (Figure-2). Her remaining history was unremarkable and there was no personal or family history of cardiomyopathy. On examination, gangrenous changes were found on her left lower limb up to the mid-thigh region and on the right limb on her toes and posterior leg region. Her chest examination revealed there was s3 gallop and reduced sounds of breath on the lung bases along with crackles. Cardiac Echo showed ejection fraction of 24% with dilated left ventricle, wall motion abnormalities and global hypokinesia. Chest X-ray showed interstitial oedema and pleural effusion. Electrocardiogram was unremarkable except for sinus tachycardia. Amputations were scheduled above the left knee and below right knee for bilateral lower limb gangrene after failure of bilateral femoral embolectomy. Patient was shifted from surgery to our cardiology unit

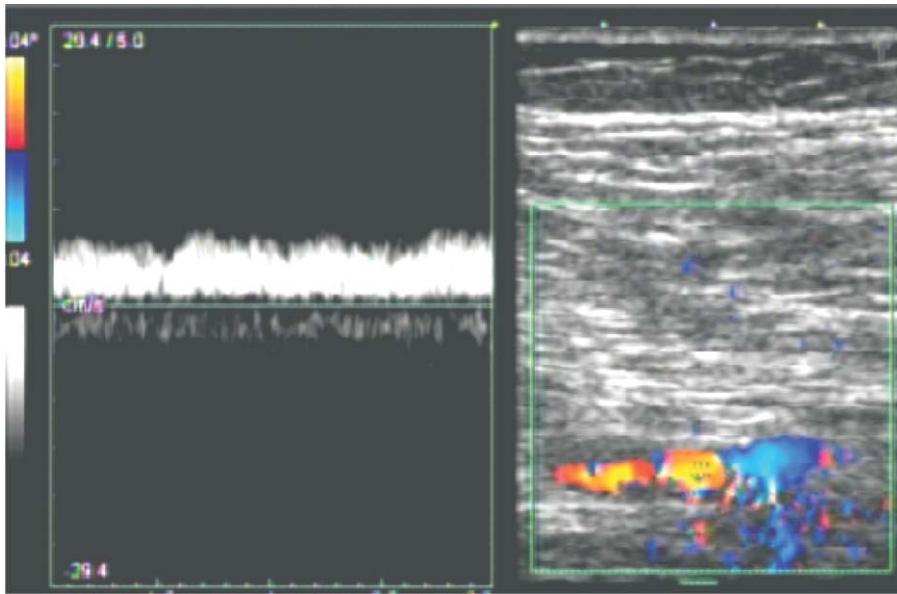


Figure-1: Normal Venous flow.

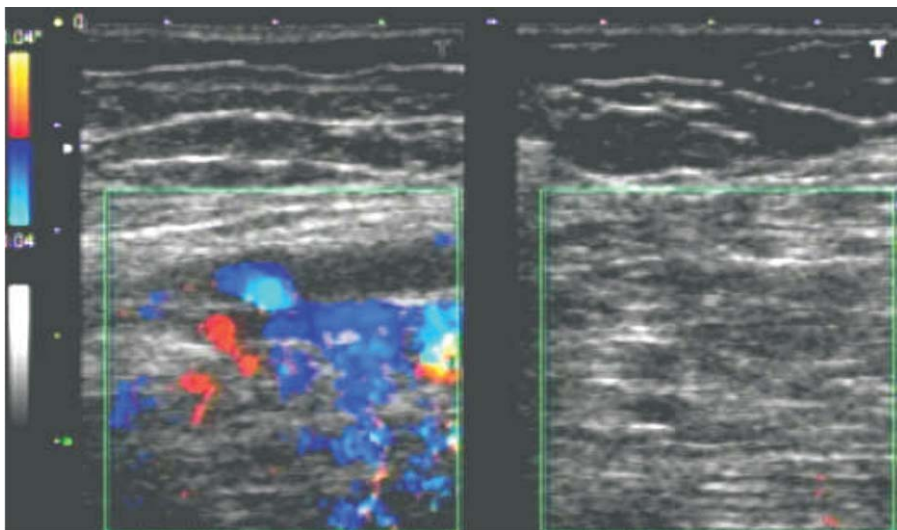


Figure-2: Total loss of color filling and spectral flow in the right Echogenic lumen of upper left femoral artery (Left) femoral artery (Right),

where a diagnosis of Postpartum Cardiomyopathy (PPCM) was made after excluding other causes. Patient was propped up, given oxygen inhalation, and was given Inj Heparin 60mg BD subcutaneously and Inj Furosemide 60mg IV BD. Patient responded to the treatment and her shortness of breath improved. After treatment, a following chest X-ray showed that the pulmonary oedema had resolved.

The case was presented in January 2018 and consent was taken prior to writing of the manuscript.

Discussion

Thromboembolic complications are common with peripartum cardiomyopathy. However acute limb ischaemia associated with PPCM is rare. Though our patient was in sinus rhythm, formation of thrombi can occur in PPCM. Thrombosis can be caused by the natural hypercoagulable state during post-partum period, hypokinesia and ventricular dilation.⁴

Acute limb ischaemia can also be the initial presenting symptom of PPCM and should be kept in mind while managing postpartum patients.⁵ Moreover, the manifestation of acute limb ischaemia threatening the loss of a limb can also be the initial presentation of PPCM, as reported by Paul J. Gagne et al. In our case report both limbs had developed gangrenous changes and bilateral amputation was performed.⁶ Other atypical presentation of PPCM can be as acute coronary syndrome. A previous case report published on the same subject depicted the presentation of PPCM as bilateral coronary emboli manifesting as NSTEMI.⁷ In our patient, ECG and cardiac troponins were done and ACS was excluded. A previous case reported of a 39-year-old multiparous woman with PPCM who developed lower limb ischaemia, had atrial fibrillation as a predisposing factor. In our case there was no arrhythmia predisposing to thromboembolism

and the only significant finding on ECG was sinus tachycardia.⁸ Another case report published on the same topic presents a case of PPCM complicated by bilateral pulmonary embolism and left lower limb ischaemia. The patient was treated with streptokinase and dobutamine, after which there was a marked improvement with reperfusion of pulmonary and lower limb vessels.⁹ In our case, however the patient had already developed gangrenous changes leaving bilateral amputation the only option. Early recognition of this uncommon

presentation of PPCM is of paramount importance for the management of this devastating disorder.

Conclusion

Acute limb ischaemia as a rare manifestation of PPCM should be kept in mind by healthcare professionals while evaluating postpartum patients, as a timely intervention can become of paramount importance to save the life and the limb of the patient.

Disclaimer: None to declare.

Conflict of Interest: Dr. Amber Ashraf has signed the ethical review statement for this manuscript and is also the co-author of this manuscript.

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