

Case Report

Peripartum cardiomyopathy - an ominous diagnosis

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Key words : peripartum cardiomyopathy, echo-cardiography

Introduction

Peripartum cardiomyopathy (PPCM) is a rare form of heart failure that occurs during pregnancy or in the postpartum period in previously healthy women. The finding of left ventricular systolic dysfunction by echocardiography is an important criterion for making the diagnosis. It is possible to misdiagnose postpartum cardiomyopathy for pulmonary embolism (PE). An error in diagnosis is life threatening for the patient. Echocardiography is also a valuable tool in differential diagnosis. Here a case is described which is complicated by postpartum cardiomyopathy and pulmonary edema due to left ventricular dysfunction immediately after cesarean section.

Case report

A 30 year old woman in her second pregnancy was admitted for elective cesarean section for postdatism and cephalopelvic disproportion. Her first delivery was also by cesarean section for failure to progress in first stage. She had no significant past medical history. Her

present pregnancy was uncomplicated and she had regular antenatal checkups. Her hemoglobin was 12 g/dL and blood pressure 110/70 mm Hg. Cardiovascular system showed no abnormality. She underwent cesarean section under general anesthesia on 26th October 2005 and a healthy baby boy weighing 3.6 kg was delivered. The operation was straight forward and there was no intra or postoperative hemorrhage. During reversal of anesthesia the anesthetist noted severe hypotension (systolic BP 80 mm Hg), cyanosis and tachycardia (pulse rate 160 per minute). Chest was full of bilateral coarse crepitations, and gallop rhythm suggestive of pulmonary edema. She received intravenous frusemide, solumedrol, soda bicarbonate and dopamine. As her condition did not improve she was shifted to intensive care unit and given ventilatory support in the form of continuous positive airway pressure (CPAP). Her pulse rate had increased to 180 per minute; BP was unrecordable by mercury manometer and auscultation of lungs revealed extensive crepitations. An immediate transthoracic echocardiography performed in the ICU showed global hypokinesia of left ventricle with depressed left ventricular systolic function and ejection fraction of 40%. (Figure 1) M-mode fractional shortening was 16% and left ventricular end diastolic dimension 52 mm. There was no left atrial mass. Venous doppler of both lower limbs showed normal venous flow. Blood gas analysis showed a PO₂ of 6.08 kPa (46 mm Hg) and PCO₂ of 3.42 kPa (26 mm Hg). Management in ICU was mainly with intravenous dopamine, dobutamine and salbutamol

Paper received on 23/02/2006 ; accepted on 18/09/2006

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nebulization. Ventilatory support was continued for 72 hours and thereafter extubation was done. Because of poor left ventricular function / hypotension she was put on dopamine/dobutamine for 7 days. She was discharged on 5th November 2005 at which time her pulse rate had improved to 70 per minute and Blood Pressure 120/84 mm Hg without inotropic support. Chest was clear and cardiovascular system was normal. She was advised to continue orally frusemide 20mg with amiloride 2.5 mg daily for 3 weeks and tablet carvedilol 3.125 mg daily for 6 months. At follow up after 2 weeks she was asymptomatic. At 6 months follow up on 27th April 2006 she was doing fine and her electrocardiogram was normal and her ejection fraction was 78%.

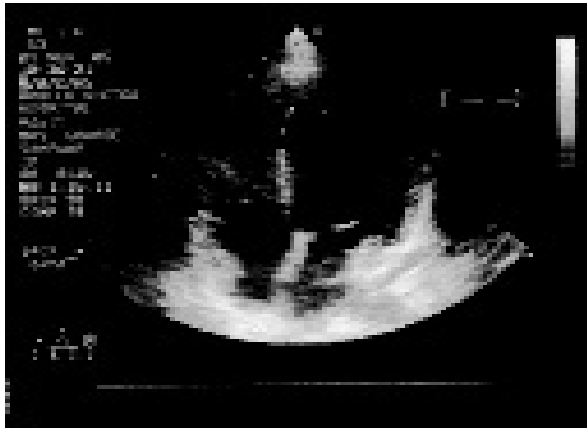


Figure 1. Transthoracic Echocardiography examination showing dilated left atrium and left ventricle.

Discussion

PPCM is a rare lethal disease about which little is known. The disease touches young previously healthy women at one of the most important moments of their lives. Mortality estimates for patients with PPCM range from 25 to 50% with most deaths occurring within first 3 months postpartum¹. It is only recently that echocardiography findings were incorporated into diagnostic

criteria of PPCM². PPCM is defined on the basis of four criteria. a) Development of cardiac failure in the last month of pregnancy or within five months of delivery. b) Absence of identifiable cause of heart failure. c) Absence of recognizable heart disease before the last month of pregnancy. d) Left ventricular systolic dysfunction shown on echo-cardiography; ejection fraction of less than 45% or M-mode fractional shortening less than 30%; or both, and end diastolic dimension more than 2.7 cm/m². Lasinska-Kowara³ and Quinn et al⁴ report on cases initially misdiagnosed as PE, but bedside electrocardio-cardiography gave the correct diagnosis of PPCM. Management of PPCM is quite different from that of PE. Treatment of PPCM is conservative and concentrates on supporting left ventricular function, leaving time for symptoms to resolve spontaneously. Pulmonary edema requires more aggressive management. Echo-cardiography provides diagnostic as well as prognostic information.

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