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Peripartum Cardiomyopathy.

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ABSTRACT

Peripartum cardiomyopathy (PPCM) is a rare condition, if diagnosed early has a favourable outcome. Though its diagnostic criteria is established several decades ago, it can be easily misdiagnosed, as various other conditions mimics PPCM. An interesting case report of Peripartum cardiomyopathy, will be discussed in detail.

Keywords: peripartum, cardiomyopathy, PPCM

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INTRODUCTION

Peripartum cardiomyopathy (PPCM) an uncommon but life threatening cardiac failure of idiopathic primary myocardial disease, encountered late in pregnancy or in the port partum period. Importance of diagnosing PPCM, is that it mimics changes occurring in normal pregnancy and may lead to fetal compromise. Moreover patient deteriorate rapidly if the symptoms are not attended at the earliest resulting in death.

Case Report:

We report a case of PPCM in 28yrs aged women, who presented with dyspnea since night, to emergency critical care department, on 2nd post op day after giving birth to male child by emergency caesarian due to oligohydramnios, fetal distress & MSL(meconium stained liquor). She was found to be dyspnoeic & hypoxic saturation on room air, in the low 80th percentile.

During examination, patient was noted to be febrile with temperature -101oF, & had BP -170|130 mmHg, Pulse rate -158/min, respiratory rate -30/min & SpO2-86% while receiving O2 through 2L nasal canula. On auscultation, bilateral basal crepitation and mild pleural rub was present. Bilateral pitting pedal oedema was present & no calf tenderness was noted. Urine analysis – negative for proteins. Na+- 141.2mmol/L, K+- 4.2mmol/L, Cl--109.2mmol/L, Urea – 33mg/dL, Creat -0.5mg/dL**,** pH -7.39, pCo2 -31mmHg, pO2-64mmHg, HCO3 -18.8 mEq/L. An Electro Cardiogram showed sinus tachycardia. No significant ST-T wave changes. Chest Radiograph showed mild cardiomegaly with bilateral increased vascular congestion. Echo Cardiogram showed Ejection Fraction -31%. Moderate to severe LV systolic dysfunction. Grade I diastolic dysfunction. mild Mitral regurgitation & tricuspid regurgitation. Minimal pericardial effusion. No pulmonary hypertension.

Patient was shifted to ICU and put on Non-invasive ventilation (NIV). Diuretics (inj.lasix 40mg i.v) was given. NTG infusion (5mg/kg/min) was started. Anticoagulant (inj. Heparin 5000units s.c), Antibiotics (inj Taxim), Neb. Leucorin & ABG monitoring.

Her fatigue & dyspnea markedly decreased.ABG valve - pH -7.4, pCo2 -36 mmHg, pO2 -88 mmHg, HCO3 -23 mEq/L. On discharge patient was instructed to continue digoxin, Flavedon,

DISCUSSION

The Syndrome “Peripartum cardiomyopathy” was named by Demakin et al in 1971, who described congestive heart failture, abnormal ECG findings & cardiomyopathy in 27 women during puerperium period[1]. PPCM incidence in india is unknow. However, incidence of 1 per 1374 live births report from tertiary care hospital from south india [2]. The incidence in west range from 1 in 4000 to 1 in 6000 deliveries. 60% present in first 2 months of post partum;~ 7% in last trimester of pregnancy. Geographic variations exit with higher incidence in Africa [3].

Through several authors postulate many possible mechanisms for PPCM, it remains still indefinite. Predisposing factors for PPCM includes multi parity[9], advanced maternal age, multi fetal pregnancy, gestational hypertension, maternal substance abuse (cocaine), nutritional deficiency, immunological response, inflammatory response & tocolytic therapy. PPCM can still occur in women out any identifiable etiology.

Clinically, patient may present symptoms like dyspnoea, orthopnoea, cough, chest pain, palpitation, abdominal distention or thromboembolic manifestation.

On examination, the patients usually have tachycardia, tachypnoea, pulmonary rales, cardiomegaly, Holosystolic murmur, gallop rhythm & pedal oedema.

Diagnosis of PPCM includes four criteria [4,5] :-

1. Development of cardiac failure in the last month of pregnancy or within 5 months after delivery.
2. Absence of an identifiable cause for cardiac failure
3. Absence of recognizable heart disease prior to the last month of pregnancy.

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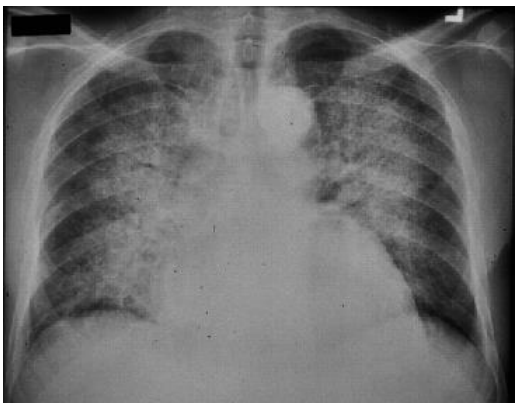
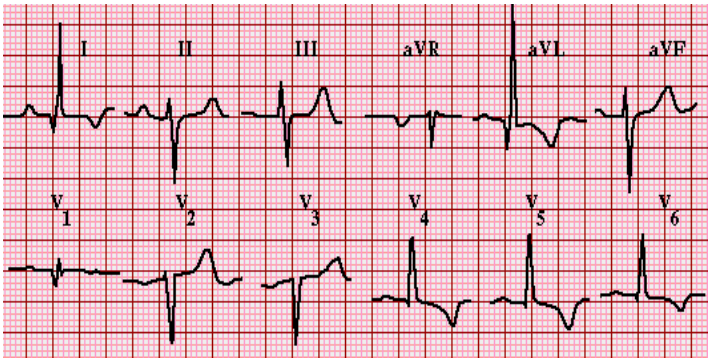
4. Criteria such as demonstrable Echocardiographic proof of left ventricular systolic dysfunction. Ejection fraction < 45%, LV fractional shortening < 30% or LV end diastolic dimension >2.7cm/m square of Body surface area.

   No specific laboratory abnormality is diagnostic of PPCM.

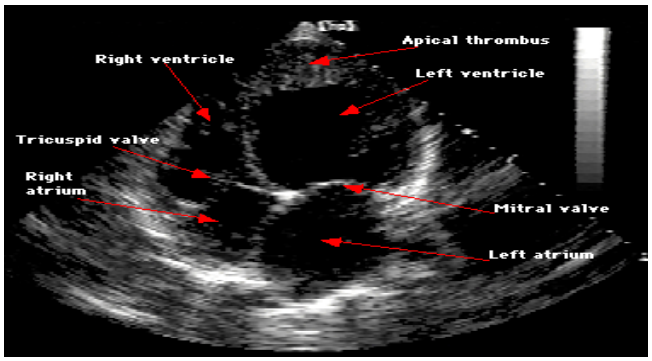
Chest-Xray can show cardiomegaly with pulmonary oedema & pulmonary venous congestion.



ECG shows non-specific ST & T wave changes. Atrial or Ventricular arrhythmia & conduction defects may be present.



Echo cardiography usually show enlargement of all chambers with marked reduction in LV systolic function. Mitral, tricuspid or pulmonary regurgitation may be present ventricular wall motion, ejection fraction and cardiac output are decreased pulmonary wedge pressure may be increased[6].



vigilant management of PPCM is essential in order to avoid any casualty.

a) Non Pharmacological therapy include salt restriction (4gm/day), water restriction(2l/day).
b) Pharmacological measures includes use of diuretics, nitrates to reduce preload. For after load reduction hydralazine, amlodipine or nitrates can be used. Use of ACEI is contra indicated in

pregnancy due to its teratogenic effects betablockers, anticoagulants, ionotropes like digoxin, dobutamine or dopamine can be used. Routine use of Immunosuppressive agents, pentoxifyline, levosumendan, bramocriptine is yet to be authorized further research studies.

c) Cardiac resynchronization therapy & Implantable cardioverter defibrillators can be opted for patients with LV ejection fraction <35% persisting after 6 months following presentation, in patients with recurrent symptomatic ventricular arrhythmia or if NYHA III & IV heart failure symptoms[12] & ORS duration 7120ms.

d) When all the other measures fails, those candidates may be subjected to the cardiac transplantation[10].

Prognosis of PPCM is dependent on left ventricular function at diagnosis & at recovery.

PPCM in first 3 months post partum has risk of 25-50% mortality[8,11]. 30% of patinet return to baseline ventricular function in 6 months[7]. Pateints persistent cardiomegaly at 6 months have mortality of 85% at 5 years. In PPCM patients, subsequent pregnancies carries risk of relapses & high rate of mortality & morbidity. Therefore these patients should be discouraged for the same. worst prognostic factors include elderly maternal age, high parity, later onset of PPCM (6 months) following pregnancy & worse Echo findings on initial Examination. The usual cause of death in points PPCM are progressive heart failure[13], arrhythmia or thromboembolism (30%)

CONCLUSION

PPCM is a syndrome which closely resembles the symptoms of normal pregnancy & heart failure at other end. It has to be diagnosed at the earliest, in order to initiate the treatment earlier and to reduce the morbidity & mortality.

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