



A Diagnostic Challenge of Peripartum Cardiomyopathy an Experience at a Tertiary Care Center

KEYWORDS

Peripartum cardiomyopathy ,PPCM

Nagarathamma Rangaiah

Professor & HOD, MBBS , MD (OBG), Department of Obstetrics and Gynaecology, Rajarajeswari Medical College, Bangalore, Karnataka, India

Aishwarya Bettegowda

Post-Graduate MBBS,(OBG), Department of Obstetrics and Gynaecology, Rajarajeswari Medical College, Bangalore, Karnataka, India

Dr.Nagendra Prasad

Associate Professor, MBBS , MD (OBG), Department of Obstetrics and Gynaecology, Rajarajeswari Medical College, Bangalore, Karnataka, India

Dr.Savitha Channaveerogowda

Assistant Professor, MBBS , MD (OBG), Department of Obstetrics and Gynaecology, Rajarajeswari Medical College, Bangalore, Karnataka, India

Kanyakumari

Professor , MBBS , MD (OBG) , Department of Obstetrics and Gynaecology, Rajarajeswari Medical College, Bangalore, Karnataka, India

ABSTRACT *Background and objective: Peripartum cardiomyopathy is a rare life-threatening condition of dilated cardiomyopathy defined as onset of acute heart failure in the last month of pregnancy or within 5 months of delivery and can easily be masked and missed because the manifestations mimic those within the normal spectrum of pregnancy and postpartum period. We aimed to evaluate diagnostic challenge of PPCM cases encountered in our hospital*

Materials and Methods. We evaluated all the postpartum patients who visited us for the year 2013-2015 to look for cases of PPCM and found 4 cases , This case series stresses upon diagnostic challenge of PPCM , high morbidity and mortality rate despite the diagnosis and treatment.

Observations :4 PPCM cases encountered in our hospital were treated conservatively multi-disciplinary approach and improved.

Conclusion:The obstetricians should be familiar with PPCM and therefore consider it when diagnosing dyspnoeic patients to expedite medical treatment for a potentially lethal condition

Introduction:

Peripartum cardiomyopathy is a rare life-threatening condition of dilated cardiomyopathy defined as onset of acute heart failure in the last month of pregnancy or within 5 months of delivery and easily be masked and missed because the manifestations mimic those within the normal spectrum of pregnancy and postpartum period. An incidence of one per 1374 live births has been reported from a tertiary hospital.¹ We aimed to evaluate diagnostic challenge of PPCM cases encountered in our hospital.

Materials and Methods.We evaluated all the postpartum patients who visited us for the year 2013-2015 to look for cases of PPCM and found 4 cases of PCCM.

Results and observations: The details of the 4 cases of PCCM encountered are given below.

Case1: A multidisciplinary approach was used with improvement in her Ejection fraction, patient was shifted out of ICU on day 4 and discharged on day7 with diuretics , anticoagulants and betablockers , followed up at regular intervals an patient showed good recovery.

Case 2: With a multidisciplinary approach in the ICU the patient showed improvement in her Ejection fraction and patient was shifted out of icu on day 4. Patient was discharged on day 7 with diuretics and betablockers and was followed up at regular intervals an patient showed good recovery.

Case 3: The patient showed not much improvement in the cardiac parameters and patient was extubated on day 5 and was on NIV day 7, with the drop in Saturation and signs of Hypoxia On ABG and Derrangement in the coagulation profile and impaired renal and Liver parameters, the patient was diagnosed to have onset of MODS. Patient was referred to a Higher Cardiac centre for further treatment and the follow up was Lost.

Case 4: With a multidisciplinary approach in the ICU the patient showed improvement in her ejection fraction and patient was shifted out of ICU on DAY 6. Patient was discharged on day 14 with diuretics and betablockers and was followed up at regular intervals an patient showed good recovery.Course of the patient in the ICU & on Day on Discharge

| | Case 1 | | | Case 2 | | | Case 3 | | | Case 4 | | |
|-----------|------------------|--------|--------|--------------------|--------|--------|---------|--------|--------|------------------|--------|--------|
| | Day 1 | Day 3 | DOD | Day 1 | Day 4 | DOD | Day 1 | Day 5 | Day 7 | Day 1 | Day 6 | Day 14 |
| Symptoms | dyspnoea , cough | | | Dynea, and fatigue | | | Dysnoea | | | Dynea and wheeze | | |
| Condition | PND2 | PND3 | PND7 | POD 10 | POD 14 | POD 17 | POD 1 | POD 5 | POD7 | POD 6 | POD 11 | POD 18 |
| Pulse | 140 | 110 | 98 | 110 | 96 | 90 | 120 | 130 | 160 | 160 | 116 | 96 |
| BP | 130/88 | 140/80 | 130/90 | 110/78 | 120/80 | 120/80 | 120/80 | 100/70 | 100/70 | 120/40 | 120/80 | 120/80 |

| | | | | | | | | | | | | |
|---------------------|---|-----------------|-----------|---------------------------------------|------------|------------|-----------------------------------|------------------------------|-----------------|--|-----------|-----------|
| Respiratory rate | 35 | 27 | 24 | 26 | 24 | 20 | 28 | 32 | 40 | 36 | 28 | 24 |
| Saturation | 70% | 98% | 98% on RA | 82% | 98 % at RA | 98 % at RA | 80% | 90% | 80 % at RA | 80% | 94% | 98% |
| Ventilated | Y | Extubated | | No | | | Y | Extubated | | Y | Extubated | |
| Mode on ventilation | CPAP | NIV | | NIV with 6 L O2 | | | SIMV | NIV with 4L O2 | | PEEP | On 6L NIV | On RA |
| Hb % | 12.4 | 11.4 | 11.4 | 8.6 | 10.2 | 10.4 | 10.4 | 10.2 | 8.4 | 11.6 | 12.2 | 12.2 |
| Total count | 22000 | 15800 | 11400 | 18000 | 11500 | 10600 | 16500 | 18400 | 25400 | 17300 | 12700 | 10600 |
| Renal parameters | Normal | | | Normal | | | | S.Creatinine mildly elevated | | Markedly deranged | | Normal |
| Liver parameters | Elevated liver enzymes | | Normal | Elevated liver enzymes | | Normal | Mildly elevated liver enzymes | | | Normal | | |
| Coagulation profile | Normal | Mildly deranged | | Normal | | | Deranged | | | Normal | | |
| 2D Echo | EF-34-38% | | 46 - 48 % | EF - 45 % | | EF - 56 % | EF - 36 to 38 % | | EF - 36 to 38 % | EF - 40 to 45 % | | EF - 56 % |
| Treatment | Diuretics, antibiotics, Beta-blockers, anitcoagulants | | | Diuretics, antibiotics, Beta-blockers | | | Referred on Day 7 in view of MODS | | | Dialysis, Dobutamine infusion, antibiotics, diuretics, beta-blockers | | |

Table1: details of PCCM cases in our study

DISCUSSION:

In 1997, the National Heart, Lung and Blood Institute and the Office of rare diseases commenced the workshop that established the following diagnostic criteria for peripartum cardiomyopathy²: Classic :1. Development of Cardiac failure in the last month of pregnancy or within 5 month after delivery.2. Absence of an identifiable cause for the cardiac failure. 3. Absence of recognizable heart disease prior to the last month of pregnancy.Additional:4. Left ventricular systolic dysfunction demonstrated by classic echo cardiographic criteria such as depressed shortening fraction or ejection fraction.

Though the exact cause of PPCM remains unknown, viral myocarditis, autoimmune phenomena and specific genetic mutations that ultimately affect the formation of prolactin have been proposed as possible cause, Risk factors include multiparty, black race , older maternal age, preeclampsia, and gestational hypertension. Symptoms include fatigue, edema and dyspnea which are similar to those for normal spectrum of per partum, also can be mistaken for pulmonary embolism and preeclampsia. Therefore the diagnosis is often delayed and the disorder is under recognized with devastating consequences. Mortality is as high as 10-50%³.

Treatment of PPCM is the same as for other forms of congestive heart failure like fluid and salt restriction, Beta blockers, diuretic and digoxin, except ACE inhibitors and

ARBs, which are contraindicated in pregnancy⁴. In about 50 % of patients, the ejection fraction normalizes⁵. Regardless of the recovery, however, a second pregnancy is usually not recommended as more than 30 % of subsequent pregnancies⁶. The risk factors though may help in screening out the high risk patients but women without enumerated risk factors and with atypical presentation may be the candidates of PPCM⁶.

Conclusion:PPCM is a severe form of heart failure that causes significant mortality. The diagnosis of PPCM remains a diagnosis of exclusion and cannot be made until underlying conditions, including chronic hypertension, valvular disease and viral myocarditis, have been excluded. Once diagnosed, medical management must address the classical goals of heart failure therapy, and should include considerations of thromboembolic prophylaxis. The obstetricians should be familiar with PPCM and therefore consider it when diagnosing dyspneic patients to expedite medical treatment for a potentially lethal condition.

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