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Case Report

A rare case of peripartum cardiomyopathy: a multidisciplinary approach

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ABSTRACT

Cardio obstetrics has emerged as an important multidisciplinary field that requires a team approach to the management of cardiovascular disease during pregnancy. Maternal heart disease complicates approximately 1% and 4% of pregnancies and accounts for up to 15% of maternal deaths. Multidisciplinary care in the antenatal period and during labour with continued surveillance extended through the puerperium along with contraceptive advise has been shown to enhance the chances of favourable outcome in these high-risk patients. Although heart disease is rare among pregnant women, it needs to be carefully managed in tertiary case sitting by a team of obstetrician. cardiologist and anaesthesiologist to obtain good maternal and fetal outcome.

Keywords: Cardiac obstetrics, Peripartum cardiomyopathy, Cardiomegaly, Hypertension

INTRODUCTION

Cardio obstetrics is an important multidisciplinary field that requires team approach to the management of cardiovascular disease during pregnancy.[1] Maternal heart disease complicates approximately 1% and 4% of pregnancies and accounts for up to 15% of maternal deaths. Multidisciplinary care in the antenatal period and during labour with continued surveillance extended through the puerperium along with contraceptive advise has been shown to enhance the chances of favourable outcome in these high-risk patients.

The rise in maternal mortality attributed to increasing number of women undertaking pregnancy at advanced maternal age, preexisting comorbid conditions such as diabetes mellitus and hypertension and increasing number of women who have survived cardiac ailments up to childbearing age.[2] Cardiac conditions during pregnancy include hypertensive disorders, hypercholesterolemia, myocardial infarction, cardiomyopathies, arrhythmias, valvular disease, thromboembolic diseases, aortic disease and cerebrovascular diseases as a complication of cardiac ailments. Hence cardiac disease complicating pregnancy is at high risk. The presenting symptoms of cardiac disease complicating pregnancy are shortness of breath, palpitations, syncope, easy fatiguability and haemoptysis. Clinical examination may reveal signs of cyanosis, clubbing, raised JVP, cardiomegaly, murmurs, arrhythmias and basal crepitations. Multidisciplinary care in the antenatal period and during labour with continued surveillance extended through the puerperium along with contraceptive advise has been shown to enhance the chances of favorable outcome in these high-risk patients.[3]

CASE REPORT

We reported a case of successful management of peripartum cardiomyopathy. 30 years, gravida 4 para 2 live 2 abortion 1, coming from Tiruvallur, booked and immunized at PMCHRI, 38 weeks 4 days of gestational age, previous NVD, presented to OPD with growth scan finding-reduced (AFI 5 cm), no other complaints, PFM well, no comorbidities. Previous obstetrics history 1st

pregnancy-male/ alive and healthy/ 10 years/ FTNVD/ Birth weight 2.7 kg, 2nd pregnancy-spontaneous miscarriage at 35 days of amenorrhoea, no treatment taken, 3rd pregnancy-male/alive and healthy/ 4 years/ FTNVD/ Birth weight 2.8 kg, 4th pregnancy, present pregnancy-Ist and 2nd trimester uneventful, 3rd trimester scan oligohydramnios (AFI 5 cm), admitted for induction of labour. IInd trimester routine AN screening ECHO-NORMAL with findings as tachycardia noted during the study (HR 111 bpm), normal LV systolic function EF 64%.

No regional wall motion abnormality, Normal chamber dimensions. Structurally valves appear normal, No MR, TR. PAH, Normal RV function, IVC (measuring-11 mm) with partial respiration variation, No pericardial effusion no clot. On examination Afebrile, no pallor, no pedal edema, weight 35 kgs, BP 110/70 mmHg, PR 82/min, CVS S1S2 heard, RS NVBS.

P/A-uterus term not acting, cephalic, head unengaged clinically liquor reduced (AFI–5 cm) FHR good. Per Vaginal examination Cervix soft, uneffaced, misposition patulous os, membranes intact, presenting part at brim, Pelvis adequate, no show/ bleeding/draining pv. CTG reactive. In view of oligohydramnios, patient was induced with 1st dose of PGE2 gel intracervical at 4.30 pm. Labour progression was watched. AT 10.30 PM: reassessment done. Labour was progressing well. AT 11.05 PM, patient C/o bleeding PV, P/V done, cervix soft, 25% effaced, os 2 cm dilated, membranes present, PPVx at-3 station, pelvis adequate. ARM done.

Blood-stained liquor draining pv ++, bleeding PV+, clots +. FHR 90–100 bpm. Patient was shifted for emergency LSCS in view of abruptio placenta in early labour. Intraoperatively Under spinal anesthesia, LSCS done in usual way delivered an alive term girl baby at 11.40 PM of birth weight 2.545 kg, Apgar 1’8/10, 5’9/10, Baby delivered as face presentation, placenta posterior, Retro placental clots of 100 gms +, liquor blood stained. Sterilization done, bleeding within normal limits (500 ml). After achieving haemostasis, abdomen closed in layers.

During closure, there was an on-table BP fall of 80/40 mmHg and bradycardia of 49 bpm, anaesthetist resuscitated with fluids and, Inj. Ephedrine 18 mg and Inj. Atropine 0.6 mg given. Persistent BP fall, patient was started on nor adrenaline. Patient was shifted to SICU for observation at 12.30 am. Patients vitals. HR 120 bpm. Spo2 100% with 6l of O2. RR 26/min. Patient reviewed in SICU at 4 AM. Vitals: PR 90/min. BP 90/70 mmHg on noradrenaline support. Spo2 99% with 2l of O2. RR 33min. CVS S1S2+. RS B/L AE+. Repeat ECHO done with findings as severe LV systolic dysfunction, EF 34% global hypokinesia of LV, grade III LV diastolic dysfunction, normal chamber dimensions. Structurally valves appear normal, mild to moderate mitral regurgitation, trivial TR. No PAH, normal right ventricle function, dilated IVC (measuring 20 mm) with no respiratory variation, No clot, pericardial effusion. Patient was diagnosed with Peripartum cardiomyopathy and managed accordingly through a multidisciplinary approach. Patient was continued with Noradrenaline infusion and titrated according to BP. Continued with Inj. Lasix, Inj. LMWH. started on tab. digoxin 0.25 mg 1\2 od, tab. ivabrad 5 mg bd, tab. metoprolol 12.5 mg OD, Tab. Sacurise 50 mg 1\2 OD. Patient was tapered from inotropes and stopped after 48 hours; vitals were stable.

Baby was taken care well at NICU. Repeat ECHO done after 1 week with findings as Adequate LV systolic function EF50% (recovering). No obvious regional wall motion abnormality. Normal chamber dimensions. Structurally valves appear normal. Trivial Mitral regurgitation. Trivial tricuspid regurgitation. No Pulmonary arterial hypertension. Normal right ventricular function. IVC measuring 11 mm, with partial respiratory variation. No clot, pericardial effusion. Patient was discharged on POD 21, advised with tab. metoprolol 12.5 mg OD to review after 15 days and.

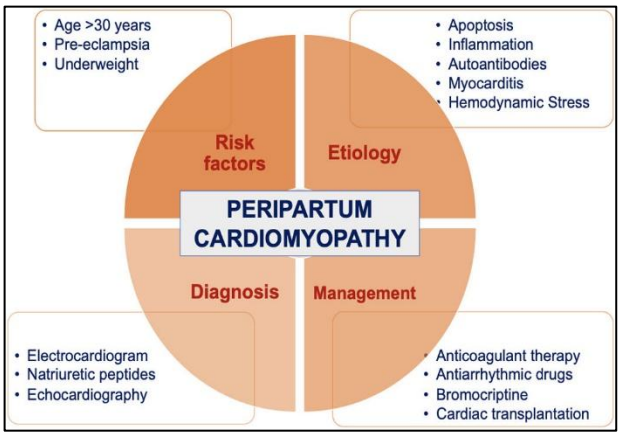

Figure 1: Risks, etiology, management of peripartum cardiomyopathy.

DISCUSSION

Incidence 1:300 to 1:4000. Risk factors: advanced maternal age, multiparity, multifetal gestation, anemia, obesity, smoking, diabetes, hypertension, pre-eclampsia , nutritional deficiencies, age: 20 – 35. shortness of breath, orthopnoea, cough, paroxysmal nocturnal dyspnea, palpitations, peripheral edema, tachycardia, elevated JVP, pulmonary rales.[1] Diagnostic criteria is development of heart failure in last month of pregnancy up to 5 months postpartum, absence of identifiable cause for cardiac failure, no recognizable heart disease before the last month of pregnancy, left ventricular systolic dysfunction shown by echo.

Complications are thromboembolism, cardiac failure. bed rest, digitalis, diuretics, inotropes, anticoagulant therapy, mechanical ventilation, bromocriptine–suppress lactation, enhance left ventricle recovery.[3] When compared to other studies. Mortality is 5% -10%, complete recovery in

postpartum is 50%. Recurrence risk in subsequent pregnancy is 21% in cases where LV function returns to normal. 44%-persistent left ventricular dysfunction. Cardiovascular disease is one of the causative conditions related to maternal mortality. Advancing maternal age and pre-existing conditions contributed to increased rates of maternal mortality.[4] Multi-disciplinary care in the antenatal period and during labour with continued surveillance extended through the puerperium along with contraceptive advice enhance the chances of favourable outcome in these high-risk cases. Although heart disease is rare among pregnant women, it needs to be carefully managed in tertiary case sitting by a team of obstetrician. cardiologist and anaesthesiologist to obtain good maternal and fetal outcome.[5]

CONCLUSION

Although heart disease is rare among pregnant women, it needs to be carefully managed in tertiary case sitting by a team of obstetrician. cardiologist and anaesthesiologist to obtain good maternal and fetal outcome.

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