Case report: peripartum cardiomyopathy

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SREE BALAJI MEDICAL COLLEGE,

CHENNAI,INDIA

- Mrs.x,28 yrs old,married for 2yrs
- Primi/GDM on meal plan
- Conceived by ovulation induction came to us for safe confinement
- Booked and immunised outside.
- First visit to SBMCH was at 40 weeks

- Menstrual H/O:

  Age at menarche-14yrs

  regular cycles,3/30days

  not associated with clots & pains

Marital H/O:

Married for 2yrs

Non consanguious marriage

- Obstetric H/O:
- 1st Trimester:

  Conceived by ovulation induction

  patient was started on Tab.Susten &Tab.Ecospirin 75mg which was taken till 34 weeks

  Rest of the trimester uneventful

- 2nd Trimester:

OGCT was done at 24 weeks =155mg/dl,

Therefore patient was started on meal plan

Rest of the trimester Uneventful

- 3rd Trimester:

h/o Tab.Susten & Tab.Ecospirin was taken till 34 weeks

Rest of the trimester uneventful

Past H/O:

Nil significant

Personal H/O:

Normal bladder & bowel habits

Family H/O:

Nil significant

O/E-Gc Fair,

afebrile,

not pale/no icterus/no cynosis,B/L pitting pedal odema+

CVS: S1S2 +

RS:NVBS +

P/A- Uterus Term,

Not Acting,

head unengaged,

FHS- Good

P.R- 78/min

B.P - 110/70mmHg

P/V-Cx mid position,

Ext OS patulous,

Int OS admits two finger,

Membranes present

vertex at brim can be pushed down

pelvis adequate

Investigations:

- Haemoglobin-10.8gms
- Urine albumin & sugars-Nil
- OGCT =155mg/dl
- FBS-75mg/dl,PPBS-119mg/dl,HbA1c-5.5 %
- Serology-negative
- TSH-2.87uIU/ml
- Blood Group-Bpositive
- USG on 26/06/2015- SLIUG GA= 38-39 wks, AFI=7-8cm,placenta posterior grade III,FL-7.6cm,EFW-3.59 kg

Cerviprime Induction was done as patient was on her due date with oligohydramnios

After 6hrs of induction,patient spontaneously ruptured her membranes

P/V-Cx 50% effaced,

Os 2 cm dilated,

membranes absent,

vertex at -3 station,

moderate meconium stained liquor draining pv

Patient was taken up for emergency LSCS in view of Meconium stained liquor/fetal distress.

Patient delivered an alive male baby on 26/06/2015 at 11.50pm with B.wt 2.8kg with good apgar 8/10,9/10.

On 3rd POD

Patient c/o acute breathlessness

O/E- patient dyspneic,

Tachypneic,

mild pallor+/B/L pedal odema+

CVS:S1S2+

RS: B/L coarse extensive crepitations+

R.R-40/min

P.R-140/min

B.P-170/130mmHg

Sp02= 60-70 % in room air

PATIENT WAS SHIFTED TO ICU FOR FURTHER MANAGEMENT

Patient was started on Inj.Lasix 60mg I.V stat

Inj.Morphine 5mg I.V given

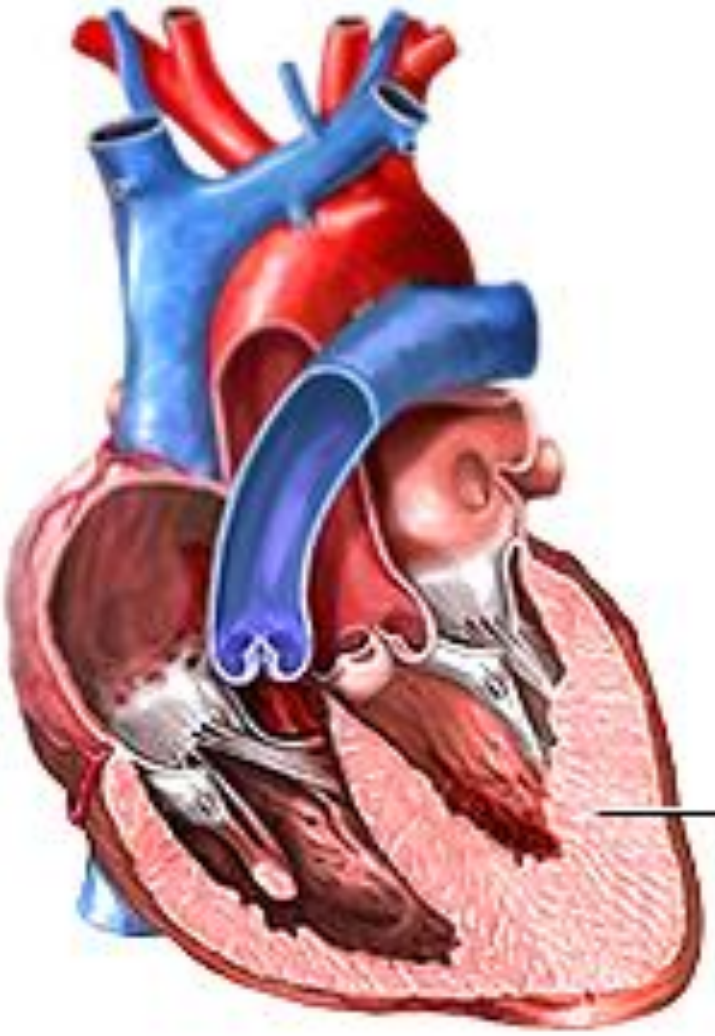
ECHO shows features suggestive of peripartum cardiomyopathy with moderate to severe LV dysfunction

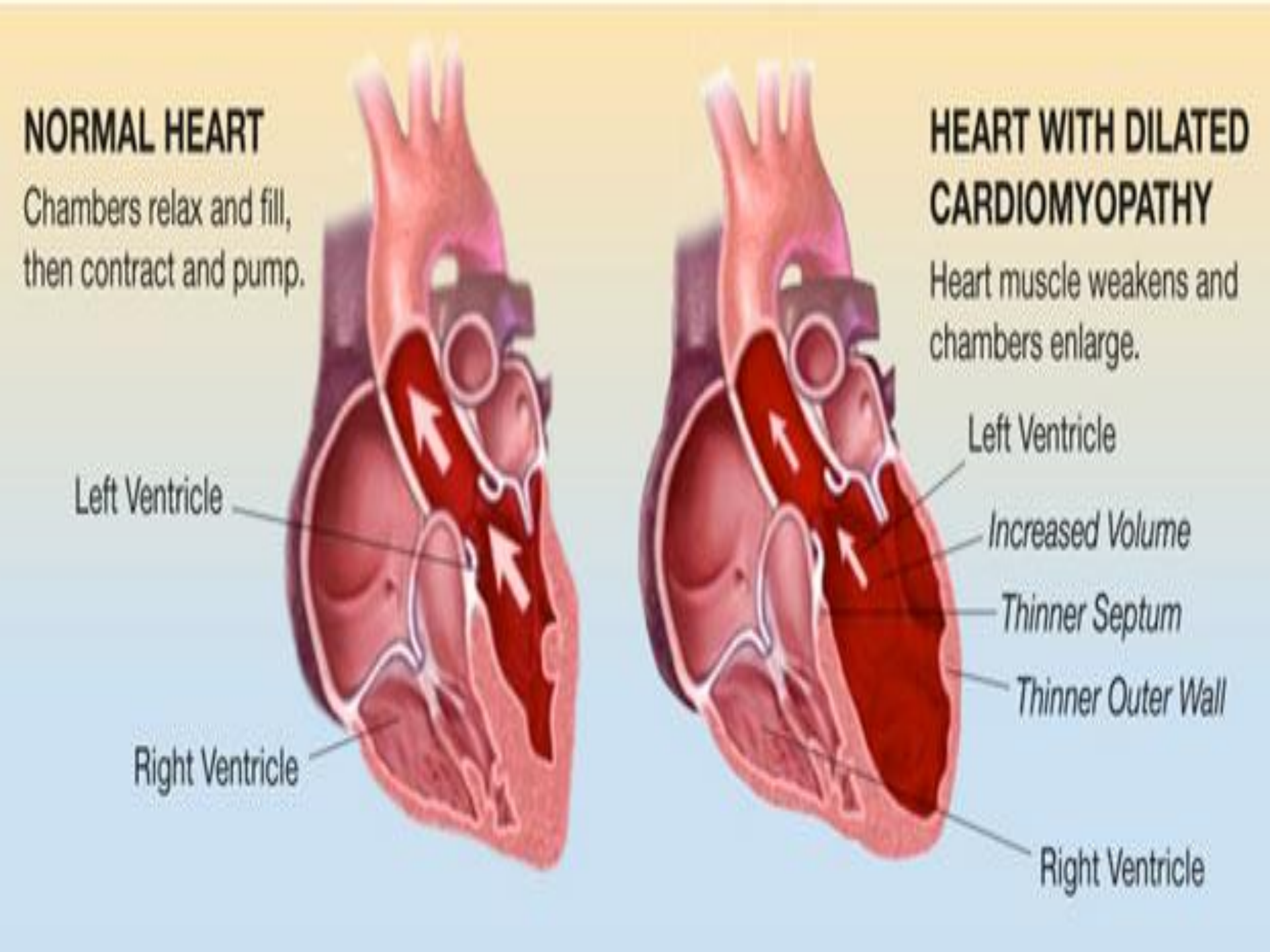
ECG shows Sinus Tachycardia

Chest X-ray: B/L homogenous opacity more on right side

Normal heart

Hypertrophic cardiomyopathy




NORMAL HEART
Chambers relax and fill, then contract and pump.
Left Ventricle
Right Ventricle
HEART WITH DILATED CARDIOMYOPATHY
Heart muscle weakens and chambers enlarge.
Left Ventricle
Increased Volume
Thinner Septum
Thinner Outer Wall
Right Ventricle

Enlargement of left ventricle due to dilated cardiomyopathy

Patient was on NIPPV with Fio2 0.5 & Cpap 8/15mmHg

Patient was treated with the following drugs:

Inj.Lasix 3mg/hr infusion

Tab.Lanoxin 0.25mg ½ OD

Tab.Flavedon MR 35mg BD

Tab.Neurokind LC BD

Tab.Ivabrad 5mg TDS

Tab.Envas 2.5mg ½ OD

Along with Inj.Taxim 1gm I.V BD as post operative antibiotics

Patient was symptomatically better & was shifted back to ward from ICU on 5th POD

She was on the following medications ,and she was covered with Inj.Heparin 5000 units S/C BD for 5 days.

Fluids were restricted to 800ml/day

- Patient symptomatically improved,Patient was adviced to do repeat ECHO after one week

  patient was adviced to continue the following drugs on discharge

Tab.Metoprolol 25mg 1/2 BD

Tab.Lanoxine 0.25mg ½ OD

Tab.Lasix 40mg ½ OD

Tab.Enalapril 2.5mg ½ BD

Introduction:

- Peripartum cardiomyopathy is a unusual form of dilated cardiomyopathy of unknown etiology.
- Occurs in previously healthy women in the final months of pregnancy & upto 5 months after delivery.
- (0.1% of pregnancies) can lead to devasting consequences with overall morbidity mortality rates as high as 5 to 32%

Etiology:

- Cardiovascular stress of pregnancy(increased fluid load)
- Inflammatory response in pregnancy- elevation of TNF alpha&IL-6
- Pathologic autoimmune response to fetal cells that lodge in the maternal circulation & cardiac tissue.
- Nutritional deficiencies-selenium

Risk factors:

- Age of parity(either young/elderly gravida)
- Number of pregnancies
- Multiple pregnancy
- Pre eclampsia
- Gestational hypertension
- Oral tocolytic therapy (beta adrenergic agonists)

Signs & symptoms:

- Dyspnea (shortness of breath)
- Orthopnea
- Unexplained cough
- Pitting odema in lower extremities
- Excessive weight gain during last month of pregnancy
- Palpitations
- Chest pain

Diagnostic criteria:

- Development of heart failure during last month of pregnancy or within 5 months of delivery
- Absence of an identifiable cause for the heart failure
- Absence of recognizable heart disease prior to the last month of pregnancy
- Left ventricular dysfunction determined during echocardiography with ejection fraction <45 %

Treatment:

- Similar to congestive heart failure
- Diuretics
- Beta blockers
- Hydralazine with nitrates may replace ACE-I (breast feeding mothers or before delivery)
- If EF<35% ,anticoagulation is indicated as risk of developing left ventricular thrombi

- In 50% women the clinical & echocardiographic status improves & return to normal.
- Whereas the disease progresses to severe cardiac failure & even sudden cardiac death.
- 30-50% at risk for recurrence of left heart failure & death in sebsequent pregnancies.

- Diagnosis is challenging since most women in last month of normal pregnancy or soon after delivery experience dyspnoae , fatigue & pedal odema (as in our case).
- Hence the treating physician should have high index of suspicion & consider it when managing dyspneic patients for this potentially lethal condition.

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Original Article

Pregnancy and Peripartum Cardiomyopathy. A Comparative and Prospective Study

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OBJECTIVE *- To assess pregnancy outcome in women with peripartum cardiomyopathy and to compare it with idiopathic cardiomyopathy.*

METHODS *- Twenty-six pregnant women, aged 28.4±6.1 years, with dilated cardiomyopathy were followed. Eighteen patients had peripartum cardiomyopathy [11 with persistent left ventricular systolic dysfunction (EF=45.2±2) and 7 with recovered ventricular function (EF=62.3±3.6)]. The 8 remaining patients had idiopathic cardiomyopathy (EF= 43.5±4.1). During the prenatal period, limited physical activity and a low-sodium diet were recommended, and hospitalization was recommended when complications occurred.*

RESULTS *- Of the 26 patients, 11 (42.3%) had a normal delivery; 9(35.5%) had cardiac complications, 6 (22.2%) had obstetric complications. Two patients (7.7%) died. Two preterm pregnancies occurred, with 26 health newborns (2 sets of twins). Two miscarriages took place. The cardiac complication rate during pregnancy was lower ($p<0.009$) in the peripartum cardiomyopathy group without ventricular dysfunction and greater ($p=0.01$) in the idiopathic group when compared with the peripartum group with ventricular dysfunction. Changes in left ventricular ejection fraction were not observed ($p<0.05$) in the postpartum period, when compared with that during pregnancy in the 3 groups.*

CONCLUSION *- Pregnancy in patients with dilated cardiomyopathy is associated with maternal morbidity. Left ventricular function is a prognostic factor and must be the most parameter when counseling patients with peripartum cardiomyopathy about a new pregnancy.*

Key words: peripartum cardiomyopathy, pregnancy, maternal complication, fetal complication

ORIGINAL ARTICLE

Maternal and Fetal Outcomes of Subsequent Pregnancies in Women with Peripartum Cardiomyopathy

Uri Elkayam, M.D., Padmini P. Tummala, M.D., Kalpana Rao, M.D., Mohammed W. Ak...
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May 24, 2001
N Engl J Med 2001; 344:1567-1571

Abstract Hide

BACKGROUND

Peripartum cardiomyopathy is a rare but sometimes fatal form of heart failure. Little is known about the outcomes of subsequent pregnancies in women who have had the disorder.

METHODS

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from 36±9 percent to 32±11 percent in group 2, P=0.08). During these pregnancies, symptoms of heart failure occurred in 21 percent of the women in group 1 and 44 percent of those in group 2. The mortality rate was 0 percent in group 1 and 19 percent in group 2 (P=0.06). In addition, the frequency of premature delivery was higher in group 2 (37 percent vs. 11 percent), as was that of therapeutic abortions (25 percent vs. 4 percent).

CONCLUSIONS

Subsequent pregnancy in women with a history of peripartum cardiomyopathy is associated with a significant decrease in left ventricular function and can result in clinical deterioration and even death.

Journal of Pregnancy
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Review Article

Peripartum Cardiomyopathy: A Current Review

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Abstract

Peripartum cardiomyopathy (PPCM) is a rare but potentially lethal complication of pregnancy occurring in approximately 1 : 3,000 live births in the United States although some series report a much higher incidence. African-American women are particularly at risk. Diagnosis requires symptoms of heart failure in the last month of pregnancy or within five months of delivery in the absence of recognized cardiac disease prior to pregnancy as well as objective evidence of left ventricular systolic dysfunction. This paper provides an updated, comprehensive review of PPCM, including emerging insights into the etiology of this disorder as well as

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Peripartum Cardiomyopathy

A Review

Anirban Bhattacharyya, MD, Sukhdeep Singh Basra, MD, MPH, Priyanka Sen, BS, and Biswajit Kar, MD

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Abstract

Go to:

Peripartum cardiomyopathy is idiopathic heart failure occurring in the absence of any determinable heart disease during the last month of pregnancy or the first 5 months postpartum. The incidence varies worldwide but is high in developing nations; the cause of the disease might be a combination of environmental and genetic factors. Diagnostic echocardiographic criteria include left ventricular ejection fraction <0.45 or M-mode fractional shortening <30% (or both) and end-diastolic

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ThanK
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