

Peripartum Cardiomyopathy: Clinical and Echocardiographic Findings [★]

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SUMMARY

We present clinical and Echocardiographic findings in five patients with Peripartum Cardiomyopathy. On Echocardiographic examination Left Ventricular dimensions were increased and Left Ventricle was diffusely hypokinetic in all patients. Left atrial, Right ventricular and Right atrial dimensions were increased in majority of patients. Contrary to previous reports,¹⁻² Left atrial, Right Ventricular and Right atrial dimensions were normal in some patients and mural thrombi were not seen. Mitral valve was slightly thickened in one patient but appeared to function normally. Mitral, Aortic and Tricuspid valves, were normal in all other patients. Anaemia was present in all patients. Correction of Anaemia with packed re-cells did not improve patients symptoms.

INTRODUCTIONS

Peripartum Cardiomyopathy, a disorder of Heart muscle presents clinically with heart failure in the last month of pregnancy or in the 1st five postpartum month.¹ Clinical features, natural history and prognosis has been reproted by many workers. We present clinical and Echocardiographic features of five cases presenting with heart failure in the puerperium.

Criteria for Diagnosis¹⁻² The criteria for the diagnosis of PPCM were 1. Development of cardiac failure in the last month of pregnancy or within five months of delivery 2. Absence of a determinable etiolyg for the cardiac failure, and 3. Absence of demonstrable heart disease prior to the last month of pregnancy.¹

MATERIAL AND METHODS

Observations are based on five patients. All these patients were seen at Jinnah Postgraduate Medical Centre Karachi. Over a period of six months, patients were seen in consultation

because of presence of Cardiac failure. All patients had a complete history and physical examination an electrocardiogram, X-ray chest and complete M-MODE and, real time Echocardiography.

Echocardiograms were done using Kontron, Sigma I class commercially available system with a VHS recording system. Hard copies were obtained in same patients using SONY page printer. A 3.5 MH transducer was used for all cases. Chamber measurements were made in M-Mode. Long axis parasternal, parasternal short axis, at mitral, aortic and papillary muscle levels, apical four chambers and apical two chamber views were obtained using conventional methods. 2-D echocardiograms were reviewed in real time, slow motion play back and "CINE" Mode. Wall motion abnormalities were assessed according to the standard methods.

Packed red-cells transfusions were given and anaemia was corrected to Hgb levels of more than 10 gms. if needed.

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RESULTS

Results are presented in Tables I-III.

TABLE I

Patients Age	No. of Pregnancies	Significant History Symptoms in Previous Delivery	Presenting Symptoms	Presentation of Symptoms
1. 24 Years	2nd	None in 1st pregnancy	- Orthopnea - RUQ pain - weakness	2 weeks after delivery gradually worsened
2. 27 Years	4th	Mild exertional dyspnoea and orthopnias during 3rd pregnancy	- Palpitations - Orthopnias	- Few days prior to delivery. - Became worse Post delivery
3. 21 Years	2nd	- No problem during the 1st pregnancy	- Orthopnea	- Immediately after delivery
4. 23 Years	2nd	- Normal 1st pregnancy	- Exertional dyspnoea	- 2nd day after delivery
5. 23 Years	2nd	1) Normal 1st pregnancy No prior Hys. of 2) Rheumatic fever 3) No prior Hys. of known Diabetes 4) No Hys. of Hypertension	- Exertional dyspnoea	- Present during 3rd trimester worsened 3rd day after delivery

TABLE II

IMPORTANT PHYSICAL FINDINGS WITH LAB DATA

Pt. No.	B.P.	Pulse	Cardiac examination	Chest examination	Anaemia	Jaundice	Others
1.	110/70	100/mint.	Decreased S1&S2,S3+	-Respiratory rate 28 min. -Bronchial breathing Right base. -Bilateral inspiratory rates.	Present (Hgb 7.3) Gms.	Present +	Hepatomegaly.
2.	100/68	145/mint. irregular	Decreased S1&S2 irregular Systolic murmur Grade 2/5 LSB4.	-Respiratory rate 22 min. -Bilateral inspiratory rates up to scapula.	Present (Hgb 6.5 Gms.	Negative	Hepatomegaly.
3.	106/70	103/mint.	Decreased S1&S2 Regular. -Systolic murmur Grade 2/5 LSB 4	-Respiratory rate 26 min. -Bilateral inspiratory rates.	Present (Hgb. 8.1) Gms.	Negative	Negative.
4.	110/72	105/mint.	S1&S2,S3+ Gr. 2/4 Systolic murmur L2SB.	-Respiratory rate 24 min. -Bilateral inspiratory rates.	Present (Hgb 7.9) Gms.	Negative	Present
5.	112/72	105/mint.	S1&S2 Regular Gr. 2/4 Systolic murmur.	-Respiratory rate 24 min. -Bilateral rates at bases	Present (Hgb 6.8) Gms.	Negative	Present

TABLE III

Pt. No.	Rate	Rhythm	RVH	LVH	Conduction disturbance	Axis	LAH	RAH.
1.	106	Sinus	±	Present	1st degree AV Block	R.A.D.	Present	Absent
2.	138	Atrial Fibrillation	Absent	Present	None	R.A.D.	Present	Absent
3.	103	Sinus	Absent	Absent	None	Normal	Present	Absent
4.	110	Sinus	Absent	Absent	None	Normal	Present	Absent
5.	116	Sinus	Absent	Present	None	Normal	Present	Present

X-RAY FINDINGS
Diffuse Cardiomegaly in all five cases.

DISCUSSION

Cardiomyopathy presenting initially in the postpartum period is well known. (5-7).

The diagnosis of peripartum Cardiomyopathy (PPCM) is based on the recognition of primary myocardial disease (PMD) that presents for the first time toward the end pregnancy or in the early puerperium. The specific etiologic factors and pathogenesis of this disorder are not known. Although alcohol and poor nutrition were mentioned, patient reported by others have been well nourished²⁻⁵ Viral infection, autoimmune mechanisms, hormonal changes, genetic disorders and toxemia have also been suggested as possible etiologies. Data to support these hypotheses are inconclusive. Most patients with PPCM reported in the literature are Negroes. Many such reports emanate from the hospitals dealing with predominantly black populations. However PPCM has been reported from other surces and from most parts of the world.

Pathologically the hearts examined in the Literature of patients with PPCM were soft, grossly enlarged with dilation of all four chambers. Mural thrombi were reported in all cases.⁽¹⁻²⁾

We have presented clinical and Echocardiographic findings in five patients with PPCM. Left ventricular dimensions were consistently increased and Left ventricle was diffusely hypokinetic in all five cases. Although mitral valve was slightly thickened in one patient, its motion was normal. No other Echocardiographic evidence of valvular heart disease was noted. In contrast to pathological report, LA, RV, RA dimensions were normal in two out of five patients. No Echocardiogra-

phic evidence of mural thrombi or clinical evidence of systemic embolization was noted. Anaemia was present in all our patients.

In conclusion, PPCM presents with heart failure in the last month of pregnancy or in the first five postpartum months. Echocardiographically it presents with dilated and diffusely hypokinetic left ventricle, Left atrial, Right Ventricular and Right atrial dimensions are increased in majority of patients but could be within normal range. No mural thrombi were Echocardiographically seen. Anaemia was consistently present in all patients. Correction of Anaemia with packed red-cells did not improve patients symptoms.

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