ORIGINAL RESEARCH PAPER

Volume-7 | Issue-12 | December-2018 | PRINT ISSN No 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

# RETROSPECTIVE ANALYSIS OF INCIDENCE AND OUTCOME OF PERIPARTUM CARDIOMYOPATHY PATIENTS IN EMERGENCY OBSTERTIC CASES IN RURAL TERTIARY CARE HOSPITAL

Anesthesiology

**Dr. G.Vijaya** M.D Associate Professor Of Anesthesia Department Of Anaesthesiology, Government Theni Medical College, Theni

**Dr. Kannan Bojaraaj *** M.D Associate Professor Of Anesthesia Department Of Anaesthesiology, Government Theni Medical College, Theni *Corresponding Author

## ABSTRACT

Peri -partum cardiomyopathy is an idiopathic and reversible form of dilated cardiomyopathy .It is life threatening but potentially treatable heart failure affecting women during peripartum period. The aim of the study was to determine the incidence and outcome of peripartum cardiomyopathy(PPCM) patients in emergency obstetric cases over one and half year period in our college hospital. It is a retrospective observational study in emergency obstetric patient with total of 16 patients with PPCM was diagnosed in total of 10560 deliveries conducted at Government Theni Medical College Hospital between January 2017-July2018. Most of the patients are young with mean age of27.3±4.29 years ,with multigravida(62.5%).Many of them were diagnosed in postpartum period(75%).The most common risk factor was pre eclamsia(37.5%).The mean ejection fraction was found to be 30.93±7.4%.There were two maternal mortality (12.5%) and two cases refered to GRH Madurai(12.5%).Women presenting with heart failure during peripartum period should be evaluated for PPCM. Early detection and perfect management of cardiac failure provides a better prognosis.

## KEYWORDS

PPCM, Heart failure, Echo, ECG, Perinatal morbidity.

### 1.INTRODUCTION:

PPCM is an idiopathic and reversible form of dilated cardiomyopathy. It is a rare ,but potentially life threatening condition seen in previously hhealthy women during the last month of pregnancy and upto 5-6 months of postpartum.[1].Its incidence varies with ethnicity and geography.It ranges from 1 in 1300 to 1 in 15000 pregnencies worldwide[1].A rapid progression to endstage of heart failure can occur with in days.On the other hand a spontaneous and complete recovery maymalso occur[2].The rarity of the condition and lack of awareness often leads to late diagnosis and treatment.

### 2.AIM:

To study the mean age ,parity,incidence,etiological factors, ECG, Echo,and outcome of PPCM patients.

### 3.MATERIALS AND METHODS:

It is a retrospective study of emergency obstetric patients 16 with PPCM was diagnosed in a total of 1 0560 deliveries conducted in Government Theni Medical College Hospital,Theni during the period of January2017-July2018.A detailed history ,physical examination,echocardiography,mode of delivery, complication and maternal outcome were recorded .Staistical analysis was done by using SPSS.

### 4.RESULTS:

The results revealed that the incidence was 1 in 660 deliveries.In a study of Elkayam et ai the mean age of presentation was29±6 years.Our study revealed that the mean age of affected patients being 27.3±4.29.Most of the patients were diagnosed in the postpartum period 75%.

**TABLE NO 1: PARAMETERS OBSERVED**

| S.NO | AGE | PARITY | RISK FACTOR | E.F.% | OUTCOME |
|---|---|---|---|---|---|
| 1 | 23 | Multi | _ | 34% | Discharged |
| 2 | 20 | Primi | _ | 26% | Death |
| 3 | 20 | primi | PIH | 32% | Discharged |
| 4 | 23 | primi | Twin | 32% | Death |
| 5 | 32 | Multi | _ | 30% | Discharged |
| 6 | 30 | multi | PIH | 35% | Discharged |
| 7 | 32 | Multi | PIH | 33% | Discharged |
| 8 | 26 | Multi | _ | 31% | Discharged |
| 9 | 19 | primi | _ | 35% | Discharged |
| 10 | 35 | Multi | PIH,K/C/O Myopathy | 29% | Refered |
| 11 | 32 | Multi | Anaemia K/C/OMyopathy | 24% | Refered |
| 12 | 33 | Multi | Anaemia | 34% | Discharged |
| 13 | 34 | Multi | PIH | 36% | Discharged |
| 14 | 22 | primi | _ | 28% | Discharged |
| 15 | 23 | primi | _ | 26% | Discharged |
| 16 | 34 | Multi | PIH | 33% | Discharged |

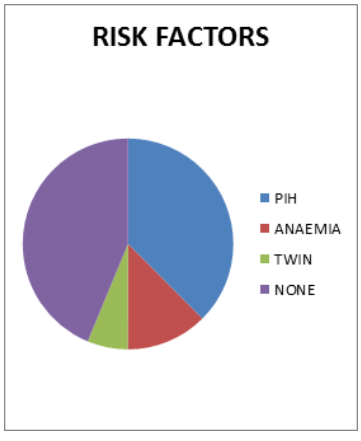


**FIGURE 1 : Risk Factors**

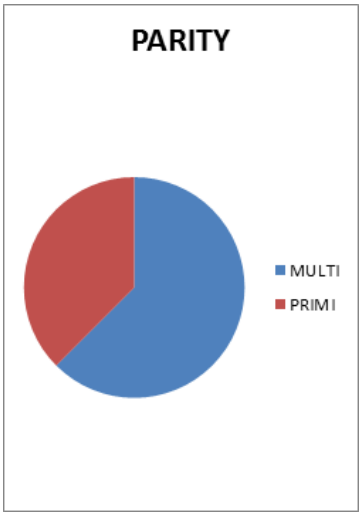


**FIGURE 2: Parity**

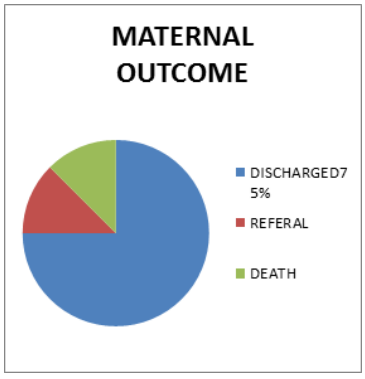


**FIGURE 3: Maternal Outcomes**

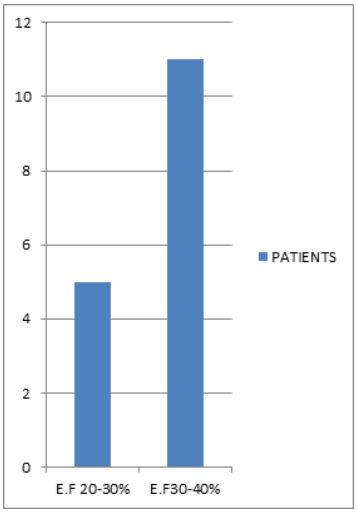


**FIGURE 4: Ejection Fraction**

There were two patients who had a prior history of PPCM in the previous pregnancy.In the study of Elkayam et al the commonly found antenatal risk factor were gestational hypertension (43%),tocolytic therapy(19%),twin pregnancy(13%).In our study the common risk factor was preeclampsia(37.5%),anaemia(12.5%),and twin pregnancy(6.2%).The mean ejection fraction at the time of presentation was 30.93±7.4%.All patients ECG shows sinus tachycardia. Out of 16 PPCM cases two had mortality, two refered to GRH Madurai,and others discharged with stable vital condition.

## 4.DISCUSSION:

PPCM is an uncommon form of congestive cardiac failure affecting the pregnant women in the last trimester or early puerperium.The incidence was varied with different geographical locations.It is around 1 in2500-4000 in USA,1 IN 1000 in south asian countries[3],and 1 in 300 in Haiti [4,5,6].In an another Indian study the incidence of PPCMwas reported as 1 in 1374 live birth[7].In our study the estimated incidence was 1 in 660 which corresponds to the reported incidence of1 in 837 by Hasen et al.Common reported risk factors for PPCM are multiparity ,multiplegestation,obesity,PIH, advanced maternal age, alcohol,tobacco abuse, low socioeconomic condition and long term tocolysis as found in various studies[4,9,10].PPCM has been repoted mostly in women older than 30 years.In our study the mean age noted was 27.4±4.29 years which is comparable with the study of Elkayam et al with the mean age of 29±6[11].Multiparity described as an important risk factor for PPCMin various studies[4,9,10], In our study also 10 patients 62.5% of cases were multipara.

Various studies identified multiple gestations to be associated with increased incidence of PPCM[8,11,12].In our study one patient(6.2%) was twin pregnant women.Preeclampsia and chronic hypertension have been associated with significant number of PPCM cases in various studies[8,9,11,13,14].Our study showed 37.5% patients were PIH,12.5% patients were anaemic,and6.2%patientwas twin pregnancy. Dyspnoea has been reported as consistent presenting symptom[8,12,15,16]. All patient(100%)s in our study also presented with dyspnoea.Majority of our patients(75%) presented in the postpartum period which corresponds to the previous study by Lampet et al[3]and Nilufer Dumen et al[17].Mishra et al found that 62.5%of the patient presented in post partum period,and a study from Turkey Hospital found the postpartum manifestation of the disease in72.7% of patient[18].The echocardiographic features frequentely associated with PPCM are reduced ejection fraction,chamber dilation,mitral regurgitation, left ventricle thrombus and rsised pulmonary artery pressure[19,20].The study group of Shan et al showed the mean ejection fraction was 29±10.06%,and it was universally reduced.In our study also the ejection fraction at the time of presentation was 30.93±7.4%.

Since the ejection fraction was reduced in PPCM ,all such patients are expected to have variying degree of heart failure, and need intensive care unit treatment.In our study also most of the patients need intensive care treatment as observation similar to that of Shan et al which showed 37.7% required intensive care treatment[9].

Prognosis depends on the degree ofcardiomegaly and left ventricular size at the time of presentation and in the following six months.So it is important to maintain long term followup of thesepatients regadless of initial recovery from left ventricular function. The treatment is usually tapered over a period of 6-12 months.Fast recovery of ejection fractionis often seen in patients for whom earlier diagnosis and treatment had done.An ejection fraction >45% at two months after diagnosis predicts full functional recovery in 75% of women[21] Subsequent pregnancies should be avoided in patients with persistent left ventricular dysfunction.Elkayam et al studied 44 women with PPCM and subsequent pregnancy and found that left venricular ejection fraction increased after index pregnancy,but decreased during the subsequent pregnancy irrespective of earlier values.When left ventricular ejection fraction had not normalisedbefore thesubsequent pregnancy these patients developed heart failure symptoms,and some patients died.In a retrospective study of Habli et al compared 70 patients with PPCM,were 21 patientshad a successful subsequent pregnancy,16 terminated the pregnancy,and the remaining 33 patient had no subsequent pregnancy.

## 6.CONCLUSION:

PPCM is a disease associated with high morbidity and mortality and can lead to maternal fetal loss and persistant decrease in the quality of life in mother.Early diagnosis ,continued monitoring and prolonged therapy may be beneficial.Principle of treatment is more or less same as that in heart failure due to any cause,but selection of drugs for the pregnant women and lactating mother is important. The anaesthetist may be involved in the intensive care management in an acutely decompensating patient or anaesthetic management of normal and operative deliveries.Careful and intense heamodynamic monitoring.

## REFERENCES

1. Fennira S, Demiraj A, Khouaja A, Boujnah MR. Peripartum cardiomyopathy. Annales de Cardiologie et D'angéiologie. 2006;55(5):271-5.
2. Pandit V, Shetty S, Kumar A. Incidence and out come ofperipartum Cardiomyopathy from a tertiary hospitalin South India.Trop Doct. 2009;39:168-9
3. Lampert MB, Lang RM. Peripartum cardiomyopathy. Am Heart J 1995;130(4):860-70.
4. Viviana Aursulesei, Mihai Dan Datcu. Peripartum cardiomyopathy: a systematic review. Cardiomyopathies- From Basic Research to Clinical Management, Josef Veselka (ed). ISBN: 978-953- 307-834-2, 2012.
5. Fett JD, Christie LG, Carraway RD. Five-year prospective study of the incidence and prognosis of peripartum cardiomyopathy at a single institution. Mayo Clin Proc 2005;80(12):1602-6.
6. Sliwa K, Förster O, Libhaber E, et al. Peripartum cardiomyopathy: inflammatory markers as predictors of outcome in 100 prospectively studied patients. Eur Heart J 2006;27(4):441-6.
7. Pandit V, Shetty S, Kumar A, et al. Incidence and outcome of peripartum cardiomyopathy from a tertiary hospital in south India. Trop Doct 2009;39(3):168-9. doi: 10.1258/td.2008.080353.
8. Ibrahim Shah, Shahzeb, Mohammad Hafizullah, et al. Peripartum cardiomyopathy: risk factors, hospital course and prognosis; experiences at lady reading hospital Peshawar. Global Advanced Research Journal of Pharmacy and Pharmacology 2012;1(1):001-011.
9. Tina Shah, Sameer Ather, Chirag Bavishi, et al. Peripartum cardiomyopathy: a contemporary review. Methodist Debakey Cardiovasc J 2013;9(1):38-43.
10. Sliwa K, Fett J, Elkayam U. Peripartum cardiomyopathy. Lancet 2006;368(9536):687-93.
11. Elkayam U, Akhter MW, Singh H, et al. Pregnancy associated cardiomyopathy: clinical characteristics and a comparison between early and late presentation. Circulation 2005;111(16):2050-55.
12. Shahida Shaikh, Shazia Shaikh, Saleem Akhter Shaikh. Peripartum cardiomyopathy: its frequency and maternal outcome. Medical Channel 2010;16(4):590-3.
13. Demakis JG, Rahimtoola SH. Peripartum cardiomyopathy. Circulation 1971;44(5):964-8
14. Ntusi NB, Mayosi BM. Aetiology and risk factors of peripartum cardiomyopathy: a systematic review. Int J Cardiol 2009;131(2):168-79. doi: 10.1016/j.ijcard.2008.06.054.
15. Ramaraj R, Sorrell VL. Peripartum cardiomyopathy: causes, diagnosis, and treatment. Clev Clin J Med 2009;76(5):289-96.
16. Sliwa K, Skudicky D, Bergemann A, et al. Peripartum cardiomyopathy: analysis of clinical outcome, left ventricular function, plasma levels of cytokines and Fas/APO-1. J Am Coll Cardiol 2000;35(3):701–5.
17. Nilüfer Duran, Hacı Günes, Ibrahim Duran, et al. Predictors of prognosis in patients with peripartum cardiomyopathy. International Journal of Gynaecology and Obstetrics

2008;101(2):137-40
18. Duran N, Gunes H, Duran I, Biteker M, Ozkan M. Predictors of prognosis in patients with peripartum cardiomyopathy. Int J Gynaecol Obstet 2008;101:137-40.
19. Fett JD, Christie LG, Carraway RD, et al. Unrecognized peripartum cardiomyopathy in Haitian women. Int J Gynaecol Obstet 2005;90(2):161-6
20. Kemi Tibazarwa, Geraldine Lee, Bongani Mayosi, et al. The 12-lead ECG in peripartum cardiomyopathy. Cardiovascular Journal of Africa 2012;23(6):1-8.
21. Peripartum Cardiomyopathy: A Current Review KatieM. Twomley and Gretchen L.Wells: Hindawi Publishing Corporation Journal of Pregnancy. 2010; Article ID 149127.