



MATERNAL AND FETAL OUTCOMES OF CARDIAC DISORDERS COMPLICATING PREGNANCIES IN YEAR OF 2022 AT GREAT EASTERN MEDICAL SCHOOL AND HOSPITAL

Obstetrics & Gynaecology

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ABSTRACT

Aims & Objectives: To find out the incidence and outcome of pregnancy with heart disease in a tertiary care centre. **Materials And Methods:** All the pregnant women with cardiac disease were retrospectively analysed in GEMS in the Department of Obstetrics & Gynaecology, Srikakulam, over a period of 1 year January 2022- December 2022. In all cases the Type of heart disease-congenital or acquired, Clinical stage/presentation- According to NYHA Classification, Mode of delivery, perinatal outcomes, Maternal, perinatal morbidity and mortality are assessed. **Results:** Out of 12 patients, 6 had congenital heart disease, 3 had rheumatic heart disease, 3 patient had Peripartum Cardiomyopathy. 11 patients were under NYHA class 1 & 2, 1 patient belonged to class 3. 4 patients underwent LSCS for obstetric indications and 8 patients had vaginal deliveries. **Discussion:** Cardiac disorders complicates 4% of pregnancies. The prevalence is rising as older maternal age, obesity, diabetes mellitus, multiple pregnancy, in-vitro fertilization & hypertension became more common.

KEYWORDS

INTRODUCTION:

Maternal heart disease has emerged as a major threat to safe motherhood and women's long-term cardiovascular health. Cardiac disease in pregnancy is a major problem worldwide, particularly in low resource country like India. Heart disease complicates 1 to 3 % of all pregnancies and is responsible for 10-15% of maternal mortality. Common congenital heart diseases include Atrial septal defect and Ventricular septal defect. The acquired group comprises Rheumatic heart disease, Cardiomyopathies and Ischaemic heart disease. In India, Rheumatic heart disease (RHD) contributes to approximately 70% of heart disease seen in pregnancy. With increased resources and expertise, many congenital heart disease patients are reaching adult life & planning pregnancies. Cardiac lesions and pregnancy both may affect each other adversely. Pregnancy is normally characterized by increased stroke volume and cardiac output. Extreme fluctuations in cardiac output occur at the time of labour and after delivery. Maternal heart disease can lead to cardiac decomposition and death, particularly in the second stage of labor. The maternal mortality rate in women with cardiac disease is 7% and morbidity is 30% during pregnancy in India.

AIMS AND OBJECTIVES: To find out the incidence and outcome of pregnancy with heart disease in a tertiary care center.

MATERIALS AND METHODS: All the pregnant women with cardiac disease were retrospectively analyzed in GEMS in the Department of Obstetrics & Gynaecology, Srikakulam, over a period of 1 year. In all cases following variables were noted:

- 1) Incidence
- 2) Type of heart disease-congenital or acquired.
- 3) Clinical stage/presentation- According to NYHA Classification.
- 4) Mode of distribution.
- 5) Pregnancy and perinatal outcomes.
- 6) Maternal, perinatal morbidity and mortality.

INCLUSION CRITERIA

Pregnant women with congenital or acquired cardiac disorder
Women diagnosed with peripartum cardiomyopathy.

EXCLUSION CRITERIA-

Women referred for termination of pregnancy were excluded.
Women with other medical disorders complicating pregnancy.

RESULTS:

1. INCIDENCE OF HEART DISEASE -1.45%

Total pregnancies	826
Pregnancies complicated by heart diseases	12

2. TYPE OF HEART DISEASE

TYPE OF HEART DISEASE	NUMBER	PERCENTAGE
ASD	3	25
VSD	1	8.33
Corrected Cardiac Lesion	1	8.33
Peripartum Cardiomyopathy	3	25
Rheumatic Heart Disease (MR -1, MS - 2)	3	25
Congenital heart block	1	8.33

3. CLINICAL PRESENTATION:

NYHA Classification	Number	Percentage
CLASS-I	8	66.66
CLASS-II	3	25
CLASS-III	1	8.33
CLASS-IV	0	0

4. MODE OF DELIVERY :

Mode of delivery	Number	Percentage
LSCS	4	33.33
Normal Vaginal	6	50
Operated Vaginal	2	16.66

5. PERINATAL OUTCOMES-

Birth Weights	Number
<=1.5 Kgs	1
1.6 - 2.5 Kgs	5
< 2.5 Kgs	6
Perinatal Outcomes	Number
Live Births	12
IUD /Still Births	0

6. MATERNAL MORBIDITY/ MORTALITY-

Outcome	Number
Morbidity	1
Mortality	0

DISCUSSION:

- The women with heart disease, who reach childbearing age in a good functional state, has increased due to the improved facilities for early diagnosis and treatment.
- The incidence in India is 1-4%⁵. In present study is 1.45%.
- In several Indian studies have stated that RHD is the most commonly encountered lesion followed by congenital heart disease^{5,6,7}.
- In developing countries, incidence of RHD still higher due to low socioeconomic class, poverty, poor nutrition, low level of

- sanitation, hygiene and inaccessibility to health services
- But our study reveals most common cardiac lesion to be congenital followed by rheumatic. This shows a shift in the spectrum of heart disease may be due to improved health services, better antibiotic prophylaxis, standard of living, and better diagnostic facilities leading to diagnosis of conditions which perhaps were underdiagnosed previously^{6,7}.
- Stangl V et al., showed a lower rate of vaginal delivery in 45.2% cases and caesarean delivery in 54.8%⁹; two other studies mentioned a higher rate of vaginal delivery (53% and 46.6%).
- In present study, 66.66% of cases delivered vaginally, 33.33% by LSCS.
- All of the patients in this study have undergone LSCS only for obstetric indications. This suggests that vaginal delivery is still favorable in early stages of cardiac disease or in compensated cardiac disease.
- In the present study, 100% had live birth.
- Our study Low birth weight found 50%, Bangal VB et al. studies in Indian show a higher proportion of LBW^{7,9,10} as high as 60% in heart disease cases⁶.
- The maternal mortality is used as a measure of the quality of a healthcare system especially in heart disease complicating pregnancies in the developing countries.
- In present study heart disease was attributed in 0% of cases of maternal mortality. In contrast to our study Sawhney H et al., concluded that pregnant women with severe symptoms have a mortality risk up to 5-15%¹¹. This can be explained, as all patients are in NYHA class I to III.

CONCLUSION:

1. The management of pregnant women with heart disease requires multimodality treatment and multidisciplinary approach with good obstetric, neonatology, cardiac and anesthesiology team is essential for successful maternal and fetal outcomes.
2. We delivered most of the cases vaginally, vaginal deliveries are still favorable for good perinatal outcomes.
3. Cesarean sections are done for only obstetric and fetal indication.
4. Maternal and fetal outcome can be improved by team work in tertiary care centres.
5. Early diagnosis of heart disease and stringent management of complications is of utmost importance.

REFERENCES:

1. ACOG Practice Bulletin No. 212: Pregnancy and Heart Disease. Obstetrics & Gynecology 133(5):p e320-e356, May 2019. |DOI: 10.1097/AOG.0000000000003243
2. Nanna M, Stergiopoulos K. Pregnancy complicated by valvular heart disease: an update. J Am Heart Assoc: Cardiovasc Cerebrovasc Dis. 2014;3(3):e000712.
3. Hiralal K, Chaudhuri S. Pregnancy complicated by maternal heart disease: a review of 281 women. J Obstet Gynecol India. 2012;62(3):301-6.
4. Sharma P, Malik R, Pandit N. Risk factors in pregnancy with heart disease and their correlation with adverse foeto-maternal outcome. Int J Reprod Contracept Obstet Gynecol. 2018;7(3):1135-41.
5. Bansode BR. Pregnancy and heart disease. Assoc Physicians Ind. 2010;773-6.
6. Bangal VB, Singh RK, Shinde KK. Clinical study of heart disease complicating pregnancy. IOSR. 2012;2(4):25-28.
7. Puri S, Bharti A, Puri S, Mohan B, Bindal V, Verma S. Maternal heart disease and pregnancy outcomes. JK Science. 2013;15:07-10.
8. Chhetri S, Shrestha NR, Pilgrim T. Pregnancy complicated by heart disease in Nepal. Heart Asia. 2014;6(1):26-29.
9. Stangl V, Schlad J, Gossing G, Borges A, Baumann G, Stangl K. Maternal heart disease and pregnancy outcome: A single centre experience. European Journal of Heart Failure. 2008;10(9):855-60.
10. Konar H, Chaudhuri S. Pregnancy complicated by maternal heart disease: a review of 281 women. The Journal of Obstetrics and Gynecology of India. 2012;62(3):301-06.
11. Sawhney H, Aggarwal N, Suri V, Vasishta K, Sharma Y, Grover A. Maternal and perinatal outcome in rheumatic heart disease. Int J Gynaecol Obstet. 2003;80(1):09-14.