



CARDIAC DISORDERS IN PREGNANCY & MATERNAL OUTCOMES

Dr. Lekkala. M.V.
Krishna Kumari

Final Year PG, Great Eastern Medical School & Hospitals (gems)
Srikakulam, Andhra Pradesh, Pin Code-532484.

ABSTRACT

AIMS AND OBJECTIVES: Cardiac disease is an important cause of maternal morbidity & mortality, both in antepartum & postpartum periods. Objective of present study was to evaluate maternal outcomes in patients with cardiac disorders. **MATERIALS AND METHODS:** A Retrospective Observational study was done in GEMS in the Department of Obstetrics & Gynaecology, Srikakulam, over a period of 6 months from June 2019 to December 2019. A total of 9 pregnant ladies with term gestation with cardiac disorders in pregnancy were noted. In all cases Maternal outcomes, complications during Antepartum, Intrapartum & Postpartum period, Mode of Delivery, ICU Admission, Maternal Morbidity & Mortality were noted. **RESULTS:** Out of 9 patients, 4 had congenital heart disease (VSD, ASD), 4 had Regurgitant lesions (MR,AR), 1 patient had Peripartum Cardiomyopathy. Out of this 6 were primi gravida & 3 were multigravida. 7 cases were posted for LSCS with obstetric indications. 2 were had normal vaginal delivery. Post-operative period was uneventful in all pregnancies & no morbidity or mortality was seen. **DISCUSSION:** Cardiac disorders complicates 0.2-4% of pregnancies. The prevalence is rising as older maternal age, obesity, diabetes mellitus, multiple pregnancy, in-vitro fertilisation & hypertension became more common.

KEYWORDS : Cardiac disease, pregnancy, maternal outcome.

INTRODUCTION:

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 mortality¹. 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 pregnancy². 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, particular in the second stage of labor. The maternal mortality rate in women with cardiac disease is 7% and morbidity is 30% during pregnancy in India³.

AIMS AND OBJECTIVES:

The objective of the current study is to evaluate the maternal outcomes in pregnancies complicated by cardiac disease.

MATERIALS AND METHODS:

Study design: Retrospective observational study. **Study sample:** All pregnant woman admitted in GEMS* hospital during the period of 6 months (June 2019 to December 2019) **Source of sample :** All pregnant women with cardiac disease during the specified period of 6 months **Inclusion criteria:** Pregnant women who were previously known case of heart disease or newly diagnosed during pregnancy. **Exclusion Criteria:** Women referred for termination of pregnancy and Medical disorders like GDM, PIH, IHCP, Thyroid disorders.

METHODOLOGY:

Medical records of all the pregnant women admitted to GEMS hospital during the specified period of 6 months were retrospectively analysed. For each pregnant patient with cardiac disease, following variables/indices were noted. A) Type of heart disease- congenital or acquired B) Clinical presentation/stage C) Obstetric Indication D) Mode of delivery E) Maternal morbidity/mortality. The patients were classified according to NYHA class. Class I -- Uncompromised-- no limitation of physical activity: These women do not have symptoms of cardiac insufficiency or experience angina pain.

Class II – Slight limitation of physical activity: These women are comfortable at rest, but if ordinary physical activity is undertaken, discomfort in the form of excessive fatigue, palpitation, dyspnoea, or angina pain results. Class III – Marked limitation of physical activity: These women are comfortable at rest, but less than ordinary activity causes excessive fatigue, palpitation, dyspnoea or anginal pain. Class IV – Severely compromised – inability to perform any physical activity without discomfort.

- 1. Incidence of heart disease
- A) Total number of pregnancies - 870
- B) Total number of pregnancies complicated by Heart disease - 9

	Number	Percentage (%)
Total pregnancies	870	100
Pregnancies complicated by heart disease	9	1.03 (%)

2. Type of Heart disease

Type of Heart disease	Frequency/ Number	Percentage(%)
Congenital	4	44.44
Rheumatic	4	44.44
Miscellaneous	1	11.11
Total	9	100

3. Clinical presentation.

NYHA classification	Number	Percentage(%)
Class I	5	55.55
Class II	3	33.33
Class III	1	11.11
Class IV	0	0
Total	9	100

4. Obstetric Indication:

Fetal Distress
Preterm Rupture of Membranes
Severe Oligohydramnios

5. Mode of delivery

Mode of delivery	Number	Percentage(%)
Normal vaginal delivery	2	22.22
LSCS	7	77.77
Total	9	100

6. Indication of LSCS

Total	7	100%
Obstetric	7	100 %
Cardiac	0	0 %

7. Maternal morbidity/mortality and outcomes.

Outcome	Number	Percentage
Morbidity	0	0
Mortality	0	0

DISCUSSION:

Incidence of heart disease in pregnancy varies from 0.3-3.5% world wide⁴. In our study it was 1.03 %. This was close to the Indian studies conducted by Bangal etal and Nagamani G etal (1.3 % and 1.2%)⁵. In our study, in contrast to other Indian studies, both congenital and acquired heart diseases were found in similar frequency. The Incidence of RHD has decreased worldwide following wide spread use of penicillin against the Streptococcal bacterium which causes RHD. Most of the patients are in NYHA class I or II (88.88%) with only one case in NYHA class III. No cases were in NYHA class IV. This suggests that most cases are in early stages of heart disease or in compensated stage . All of the patients in this study has 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. There was no morbidity or mortality noted in this study. This is in contrast to other studies which reported mortality rates about 3 to 5% . This can be explained, as all patients are in NYHA class I to III.

CONCLUSION:

1. Pregnant patients with cardiac disease should be managed in a tertiary care center with multidisciplinary team.
2. Vaginal delivery is still favorable
3. LSCS should be performed for an obstetric indication.
4. Early diagnosis of heart disease and stringent management of complications is of utmost importance.

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