

A Study of Cardiac Disease in Pregnancy and Fetomaternal Outcome

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KEY WORDS : Cardiac disease, RHD, Mode of delivery, Preterm.

ABSTRACT

Background: Pregnancy comes as a temporary complication in patient with a cardiac disease. Prevalence of heart disease in pregnancy varies from 0.3%-3.5%. It is fourth common cause of maternal mortality and one of the most important non obstetrical cause of maternal death. **Objective:** The objective of this study was to find out cause, incidence, management and fetomaternal outcome of pregnancy with cardiac disease. **Material and Methods:** This is a prospective study of 36 cases of pregnancy with cardiac diseases. They were thoroughly investigated to get cause, incidence, management and fetomaternal outcome of pregnancy with cardiac diseases. **Results:** The prevalence of cardiac diseases during the study was 0.29%. RHD is still the major group of heart diseases in pregnancy among which mitral valve diseases is the commonest (53.52%). 60.3% babies are LBW thus prematurity is very common in patient with cardiac disease. **Conclusion:** The results of our study indicate that cardiac diseases forms considerable proposal of medical illness complicating pregnancy.

INTRODUCTION

Pregnancy comes as a temporary complication in the disease process of a patient with a cardiac disease. Prevalence of cardiac disease in pregnancy varies from 0.3%-3.5%. It is the fourth common cause of maternal mortality and one of the most important non obstetrical causes of maternal death. Previously most women with diagnosed heart disease were advised to avoid pregnancy and labour and termination was advised. But in modern obstetrical practice, pregnancy in a patient with heart disease is no longer an unacceptable hazard. Joint management between the obstetrician and the cardiologist has improved the outcome of pregnancy and reduced maternal risks.

Effect of Pregnancy on Patient with Heart Disease :

The Heart which has an organic disease is already in a border line state. The pregnancy may lead it to in a state of failure. Though the heart failure may occur at any time during pregnancy but maximum changes are at about seventh or eighth month and during labour.

Effect of Heart Disease on Pregnancy : Pregnancy outcome is compromised by the presence of heart disease. Previously the perinatal mortality for pregnant patients was as high 20%. But due to adequate prenatal care, prolonged hospitalization and intensive care when decompensation occurs, there is an improvement in the fetal outcome nowadays. But still there are a few

Cardiovascular Physiology during Pregnancy and Labour

Parameter	Percentage	Change
Cardiac output	40-50%	Increase
Stroke volume	30%	Increase
Heart rate	15-25%	Increase
Intravascular volume	45%	Increase
Systemic vascular resistance	20%	Decrease
Systolic BP		Minimal
Diastolic BP	20%	Decrease at mid -pregnancy
CVP		Unchanged
O ₂ Consumption	30-40%	Increase

complication like IUGR, IUD, abortion and congenital anomalies are increased in a pregnant patient presenting with heart disease.

AIMS AND OBJECTIVE

- 1) To find out incidence of various cardiac lesion and presentations of heart diseases in pregnant women.
- 2) To find out causes and management of pregnancy with a heart diseases.
- 3) To assess maternal and fetal outcome and prognosis.

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MATERIAL AND METHODS

This study is an analysis of maternal and fetal outcome in 36 cases of cardiac disease out of 12,152 total deliveries carried out between the period of September 2017 – October 2018 in department of Obstetrics and Gynecology, Civil hospital, B.J. medical college, Ahmedabad.

Inclusion Criteria

- Patient who were non case of RHD or diagnosed during present pregnancy
- Patient with congenital heart disease
- Patient with ischemic heart disease
- Patient with prosthetic heart valves and surgically corrected heart disease

OBSERVATION

Table 1: Emergency Vs booked cases

Total	Emergency	Booked
36(100%)	23(64.78%)	13(35.22%)

Table 2: Etiological Distribution

Type of Cardiac Disease	No of Cases	Percentage (%)
Rheumatic Heart Disease	19	53.5
Cardiomyopathy	5	15.1
Atrial Septal Defects	3	12.6
Mitral Valve Prolapse	2	4.22
Bicuspid Aortic Valves	3	12.6
Pulmonary Arterial Hypertension	2	4.2
Tetralogy of Fallot	1	1.41
Ventricular Septal Defects	1	1.41
	36	100

Table 3: Outcome of Pregnancy

Outcome	No of Patient	Percentage (%)
Full Term	23	66.2
Pre Term	13	29.57
MTP	1	1.41
Spontaneous Abortion	1	1.41
IUD	1	1.41

Table 4: Mode of Deliveries

Mode of Delivery	No of Patient	Percentage (%)
Normal Vaginal Delivery	18	52.94
LSCS	12	35.3
Forceps Assisted Vaginal	2	5.88
Ventouse Assisted Vaginal	2	5.88

Table 5: Indication of LSCS

Indication	No of Patient
Malpresentation	3
Fetal Distress	4
Cardiac	3
IUGR	1
Prev CS	1
Total	12

Table 6: Fetal Outcome

Outcome	Number	Percentage (%)
Healthy	26	77.9
Intra-Uterine Growth Restriction	4	10.3
Intra-Uterine Death	1	2.94
Neonatal Death	2	4.41
Low Birth Weight	20	60.3
Neonatal Intensive Care Unit Admission	5	11.76
Total		100

DISCUSSION

Total 36 cases of pregnancy with cardiac disease out of 12,152 deliveries registered. The prevalence of cardiac disease during the study was 0.29% (2.9 cases per 100 deliveries). The incidence of registered patient is 35.22%

and emergency cases referred from outside where 64.78%. Thus being a tertiary care center most of the cases where referred from outside. RHD is still the major group of heart diseases in a pregnancy among which mitral valve diseases is the commonest (53.52%). It is important to grade the patients under NYHA classification for proper management and conduct, most of them fall under Grade I (20 patients) and Grade II (11 patients). 53% patients had normal vaginal delivery and 35.3% had LSCS while 11% underwent instrumental vaginal deliveries. 77.9% of babies were healthy. 60.3% were LBW. 30% of patients had preterm deliveries. Thus prematurity is common in patient with cardiac disease. Barrier contraception should be the ideal choice for these patients but modern CuT-380 A can also be used when benefits outweigh risks as stated by WHO.

CONCLUSION

The results of our study indicate that cardiac disease forms a considerable proposal of medical illness complicating pregnancy. Cardiac disease patients problems both to the obstetrician and as well as to the

physician, cardiologist and to the neonatologist. The management includes intensive care throughout pregnancy and also during labour and postpartum. The newer investigation like 2D-Echo and TEE are becoming easily accessible for the patients and also are better intensive care unit services available so that management of the patient with cardiac disease with pregnancy should not be big problem in future.

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