

Original article:

Feto-maternal outcome in patients with cardiac disease in pregnancy at tertiary centre

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ABSTRACT

Objectives: To evaluate the maternal and fetal outcome of pregnancies complicated by cardiac disease in a tertiary care centre.

Methods: A retrospective analysis was carried out in 60 pregnancies from September 2017 to September 2018 in women with cardiac disease who delivered at ≥ 28 weeks of gestation at a tertiary care center.

Results: Rheumatic heart disease with isolated mitral stenosis was the predominant cardiac problem. Septal defects were the most common form of congenital heart disease. Patients in NYHA class I/II had fewer maternal complications than those in NYHA class III/IV. 75% patients belong to NYHA I/II and 8.3% patients belong to NYHA III/IV. 31 patients delivered vaginally out of which 10 patients had instrumental vaginal delivery and 29 patients had caesarean section. The incidence of PAH was 3% and CCF developed in 20% of cases.

Conclusion: Rheumatic heart disease was the predominant type. Patients in NYHA class I/II had a better maternal and fetal outcome than those in NYHA class III/IV. Surgical correction of the cardiac lesion prior to pregnancy was associated with better pregnancy outcome. Multidisciplinary cooperation, proper pre-conceptional and antenatal care are the key measure to improve the fetomaternal outcome.

INTRODUCTION

Heart disease complicates more than 1% of all pregnancies and is now the leading cause of indirect maternal deaths accounting for 20% of all cases¹ Cardiac disease in a pregnancy is a high risk disease which possess a significant challenge to an obstetrician. Cardiac disease in a pregnant woman is most commonly due to RHD, CHD and less commonly due to cardiomyopathy. Increasing prevalence is due to higher rates of obesity, hypertension and diabetes. According to United States National Centre for Health Statistics, almost half of adults aged 20 or older have atleast one risk factor for cardiovascular disease. The most common clinical features of cardiac lesions like breathlessness, pedal oedema, murmurs which mimic normal physiological changes in pregnancy posing a diagnostic difficulty for obstetricians.

MATERIAL AND METHODS

This was a retrospective study carried out at the Department of Obstetrics and Gynecology at tertiary care centre during the period of September 2017 to September 2018. A total of 60 pregnant women with cardiac disease admitted during the study period. Data were collected from previous hospital records.

Inclusion criteria

All pregnant women with pre existing cardiac disease who came for treatment at Pravara rural medical hospital Loni.

Exclusion criteria

All pregnant women with newly diagnosed cardiac disease.

RESULTS

A total 60 pregnant women with cardiac disease were included in the study. Incidence of the cardiac disease at our centre was 0.67%.

Table 1: Agewise distribution

Age Group	No. Of Patients	Percentage
<20 years	0	0
20-30 years	51	85
>30 years	9	15

Table 2: Distribution as per gravida score

Gravida	No. Of Patients	Percentage
Primigravida	29	48.3
G2	22	36.6
G3 or more	9	15

Table 3 : Distribution as per gestational age (At the time of delivery)

Gestational age	No. of Patients	Percentage
28- 33 weeks	8	13.3
34-36 weeks	9	15
37-40 weeks	43	71.6
Postdate	0	0

Table 4:- Distribution as per NYHA classification

Class	No. Of Patients	Percentage
Class I	45	75
Class II	9	15
Class III	4	6.6
Class IV	1	1.6

Table5:- Distribution as per neonatal outcome

Neonatal outcome	No of patients	Percentage
Term baby	20	39
SGA baby	26	51
IUD	5	10

Table 6:- Distribution as per mode of delivery

Mode of delivery	No of patients	Percentage
FTND	19	31.6
LSCS	29	48.3
Forceps	6	10
Ventouse	4	6.6
Breech(29-30 weeks)(PTVD)	2	3.3

Table 7:- Distribution as per maternal complications with heart disease.

Maternal complication	No. Of Patients
Anemia	6
Preeclampsia	15
Atrial fibrillation	2
Pulmonary hypertension	1
CCF	6

Table 8(a) :- Distribution as per etiology

Type of heart disease	No. Of Patients	Percentage
CHD	10	17
RHD	50	83.3

Table 8(b)

Age	RHD	CHD
<20 years	0	0
20-30 years	40	7
>30 years	10	3

DISCUSSION

Cardiac disease contributes to be a risk factor for maternal and neonatal morbidity and mortality. The incidence of cardiac disease during pregnancy in our study at Pravara, Loni was 0.67%. Present study shows the predominant lesion was RHD (83.3%) followed by CHD (16.6%) The most commonly found valvular lesions in the present study was mitral valve disease (48%) affected by rheumatic fever followed by aortic valve disease (6.6%).

RHD complicates about 0.3% to 3.5% of women in the childbearing period with a global figure of 1%.[8] It accounts for about 30% in developed countries and 90% in developing countries.[9,10] Out of 60 pregnancies, 75% belong to NYHA class I and class II. 8.3% are patients with NYHA class III and class IV and had a poor outcome. While studying the mode of delivery 31 patients delivered vaginally out of which 10 patients had instrumental vaginal delivery to cut short the second stage. 29 patients had caesarean section. In the present study, maternal complications were observed in 30 patients (50%) with cardiac disease. Among them 6 were anaemic, 15 were preeclampsia, 1 with pulmonary hypertension.

We had found one maternal death in the present study and cause of death was pulmonary hypertension. In the present study, we had 20 term baby. We had found 5 IUD.

CONCLUSION

Cardiac disease is a major risk condition, which has adverse effect on pregnancy and its outcome. Rheumatic heart disease is the most common etiological factor even with the antibiotics against streptococcus. Maternal and neonatal morbidity and mortality can be reduced with adequate antenatal checkups and early detection of cardiac diseases.

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