

## Evaluation of Foetal Outcome in Pregnancy with Heart Disease in Tertiary Center in South Gujarat

Manali Kapadia<sup>1</sup>, Radhika Mohan<sup>2</sup>, Saral Bhatia<sup>3</sup>, Nilam Prajapati<sup>4</sup>, Parul Uhanawala<sup>5</sup>

### Abstract

**Objectives:** Evaluation of foetal outcome in pregnancy with heart disease in tertiary center in south Gujarat. **Material & Method:** This is a prospective analytic study of 30 pregnant women with heart disease attending antenatal outpatient department or coming as emergency patient in labour room of New Civil Hospital, from July 2016 till August 2017. **Inclusion Criteria:** All the pregnant women with heart disease attending antenatal outpatient department or coming as emergency patient in labour room of New Civil Hospital, from July 2016 till August 2017. **Exclusion Criteria:** Patients not giving consent, pregnant patient with some other systemic disease. **Result:** Mean age of the patients enrolled was belonged to 20-25 years (73%). 57% of the subjects had Rheumatic heart disease. Mitral valve is the most common valve affected in RHD. In our study 75% of subjects were in NYHA grade 1 and 2. 60% of the babies were full term with gestational age more than 37 weeks & birth weight >2.5kg. In our study most common complication was Prematurity (37%) and second most common was IUGR (17%). **Conclusion:** a pregnant cardiac patient has to be in constant supervision of obstetrician, physician, cardiologist and neonatologist to improve the fetal outcome. Early diagnosis, preferably pre conceptional is crucial to reduce complications and morbidity.

Careful history taking and physical examination are key to diagnose heart disease early and to prevent fetal complications.

**Keywords:** Foetal Outcome; Heart Disease; Pregnancy; Complications.

### Introduction

Heart disease in pregnancy remains one of the leading cause of non-obstetric maternal death during pregnancy and fetal complications. Management of pregnancy in heart disease is a joint effort and a challenge to obstetrician, cardiologist and neonatologist, as pregnancy and cardiac disease affects each other adversely.

During pregnancy, there is extra demands on cardiovascular system. In the presence of heart disease these extra demands may not be fulfilled thus, extra care is needed for further management of pregnant women with heart disease. However all the clinical cardiac conditions are not associated with bad prognosis.

The Prognosis of pregnancy in heart disease depends on type, duration, severity of heart disease, age of patient and presence of other comorbidities.

Conditions in which women is advised not to conceive: primary pulmonary hypertension. Conditions with high mortality rates: severe mitral stenosis & Condition with benign course: Mitral valve prolapse. Hence, proper diagnosis is affects future pregnancy and therapeutic decision. In developing countries, rheumatic heart disease is still predominant and major cause of adverse fetal outcome. Thanks to recent advances in diagnostic techniques, medical management and surgical techniques which has made

<sup>1</sup>2<sup>nd</sup> Year Resident

<sup>2</sup>3<sup>rd</sup> year Resident

<sup>3</sup>Associate Professor,

<sup>4,5</sup>Assistant Professor,  
Dept. of Obstetrics and  
Gynecology, New Civil  
Hospital, Surat, Gujarat  
395001, India.

**Corresponding Author:**  
**Manali Kapadia,**

2<sup>nd</sup> Year Resident, Dept. of  
Obstetrics and Gynecology,  
New Civil Hospital, Surat,  
Gujarat 395001, India.

E-mail:

manalikapadia91@gmail.com

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pregnancy for women who wouldn't have attempted in past, reduced fetomaternal mortality and morbidity and also improved maternal and fetal outcome.

#### *Aims & Objects of Study*

1. Evaluation of fetal outcome in pregnancy with heart disease in tertiary care center in south Gujarat.

#### **Review of Literature**

The fetus in the presence of maternal heart disease is affected in many ways there are increased spontaneous miscarriage and threatened abortions, the incidence of preterm labour, IUGR, stillbirth is also increased more in cyanotic group of heart diseases which can be explained by the chronic hypoxia and polycythemia. There is increased incidence of congenital heart disease [4%-6%] as compared to normal pregnancy [0.6%]. Some autosomal dominant congenital heart disease like Marfan' syndrome, Noonan's syndrome, Digeeorge' syndrome e.t.c. have 50% transmission rate. Recurrence risk largely depends on the type of the lesion and the family history of congenital heart disease if present.

In our study, primary fetal outcome was noted in terms of maturity, birth weight, APGAR score, congenital anomalies, NICU admission, and early neonatal deaths.

#### **Material & Method**

This is a prospective analytical study of 30 pregnant women with heart disease coming to New Civil Hospital Surat as a OPD base or emergency patient from July 2016 till August 2017.

#### *Inclusion Criteria*

Pregnant women with congenital or acquired heart disease.

#### *Exclusion Criteria*

Non-consenting women, pregnant women with heart disease and other medical conditions like diabetes, liver disease, renal disease etc. Patients were evaluated antenatally and intranatally for the association of various cardiac disease with pregnancy. All the suspected and confirmed cases were thoroughly evaluated by investigations by joint consultation with physician and cardiologist. All confirmed cases were given functional classification based on NYHA classification (2003) and were screened for risk factors, complications during pregnancy, and fetal anomalies.

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#### **Observation and Discussion**

Present study includes 30 pregnant women with cardiac disease who attended antenatal outpatient department or came as emergency patients in labor room over 1 year of period.

Among 30 subjects with heart disease admitted in new civil hospital, 73% has undergone lower segment caesarean section. Majority of them were taken for cardiac conditions as opined by the cardiologist or physician. All this patients were given general anaesthesia. Only 26% delivered vaginally and about 75% of the delivered babies were preterm (Table 1).

Sixty percent of babies were full term with gestational age more than 37 weeks and only 40% babies were preterm with gestational age less than 37 weeks (Table 2).

**Table 1:** Fetal outcome and mode of delivery

Mode of Delivery	Term of Pregnancy	No. (n=30)	Percentage (%)
Vaginal delivery-8 (26.66%)	Fullterm	2	25
	Preterm	6	75
LSCS-22 (73.33%)	Fullterm	17	77.27
	Preterm	5	22.73

**Table 2:** Fetal outcome

Fetal Outcome	No. (n=30)	Percentage (%)
Full term	18	60
Pre term	12	40

**Table 3:** Fetal complications

Complication of Pregnancy	No. (n=30)	Percentage (%)
Prematurity	11	36.67
IUGR	5	16.67
IUFD	6	20
Neonatal hypoxia	2	6.66
Early neonatal death	3	10
NICU Admission	9	30

Thirty seven percent of babies were born premature. Prematurity is thus the most common fetal complication of pregnancy with heart disease, followed by intra uterine growth retardation and intrauterine fetal death. In this study 17% of the babies had IUGR.

Thirty percent of total new borns admitted in NICU for prematurity and low birth weight.

Ten percent of the babies had early neonatal death, i.e. within one month of life.

Cause for END are poor weight gain, prematurity, septicemia and secondary apnoea (Table 3).

### Conclusions

To improve fetal outcome, a pregnant cardiac patient has to be in constant supervision of the obstetrician, physician, cardiologist and neonatologist.

In our country, Rheumatic Heart Disease is still most established Rheumatic Valvular Heart Disease in the child bearing age group. Early diagnosis, preferably pre conceptional is crucial to reduce fetal complications and morbidity. Careful history taking and physical examination are crucial to diagnose heart disease early and to prevent fetal complications.

However, now it has been possible for the patients with decompensated severe cardiac disease can go through different phases of pregnancy with comfort, safety, ease and delivering healthy baby by supportive measures, newer advanced technologies, advances in cardiothoracic surgeries and multispecialty team approach.

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