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A STUDY OF CLINICAL PATTERN,TYPE OF LESION,MATERNAL OUTCOME AND PREVALENCE IN PREGNANCY WITH HEART DISEASE IN TERTIARY CARE HOSPITAL.

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ABSTRACT

BACKGROUND: Cardiac disease in pregnancy is still a major problem worldwide, particularly in developing countries. At present, cardiac disease complicates 0.2–4% of all pregnancies. Aim and objective of present study was to determine maternal outcome in pregnant women with type of heart diseases, mode of delivery and maternal outcome.

METHODS: A study was performed in department of Obstetrics and Gynecology at Govt RMH (total deliveries13,662 in 2020) attached to Thanjavur medical college over a period of one year period from january 2020 to december 2020. 306 women with heart disease which were previously established or diagnosed during pregnancy were enrolled in the study between January 2020 and december 2020 were included in this study.A tabulated representation of the data was done. The various cardiac diseases were categorized according the type of the lesion , the maternal outcome assessed, and the maternal mortality was recorded.

RESULTS: Total number of pregnant women with heart disease was 306 and the prevalence of heart disease in pregnant women admitted during the study period was found to be 2.2%. Rheumatic Heart Disease (RHD) was the most common encountered type 72.9% followed by congenital heart disease was **14.4%.** Instrumental deliveries were higher among the cases .The age of patients ranged from ,< 20 to >30 years with maximum number of patients in age group of 26-30 years ((41.83%), 11.76% belonged to >30 years and 11.43% was in < 20 years . In this study, most of the patients were primigravida (**45.75**%) followed by second gravida is around (30.71%).Out of all maternal deaths 9.34% were attributed to cardiac cause.

CONCLUSION: Present data supports the fact that the prognosis of pregnant women with heart disease has improved, leading to successful outcome due to care given by team of doctors consists of cardiologist, obstetrician, neonatologist and anaesthetist and also early referral from PHC'S,GH,and private hospital. This study concluded that pre- pregnancy diagnosis, counseling, routine antenatal supervision and delivery at an equipped centre improve the outcome. Multidisciplinary approach with careful monitoring of high risk cases which is apparently the reason for lesser number of women dying due to cardiac related causes at our institute.

KEYWORDS : Rheumatic Heart disease, Congenital heart disease, Instrumental deliveries..

INTRODUCTION

Prevalence of heart disease in pregnancy is 0.3-3% worldwide. In India Incidence of cardiac disease complicating 1 to 4% of pregnancies.Heart disease in pregnancy is of great clinical significance both to the cardiologist and obstetrician. Heart disease is considered as one of the important cause for maternal mortality and morbidity in the antenatal and as well as in postnatal periods . In developing countries like India, rheumatic heart disease is still predominant and compromises 56-89%. In developing countries rheumatic heart disease are not only still prevalent but continuously a major reason resulting in morbidity and mortality in pregnant mothers.

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. But now a days the diagnostic difficulty is getting reduced due to recent advances and also by coordinated care given by multidisciplinary approach.

Heart disease complicating pregnancy has been implicated as the second most common indirect cause of maternal mortality in India next to anemia.Many women with congenital heart disease survive into reproductive age group due to improved medical and surgical management than past.

AIMS & OBJECTIVE

1. To study the incidence of heart disease among pregnant women.2.To study the various types of heart disease 3.To study the maternal outcome.

MATERIALS AND METHOD:

This study done at Govt. Rajamirasudar Medical Hospital attached to Thanjavur medical college, Thanjavur. In the present study 306 cases of pregnant women with cardiac disease who are being admitted with the complaints and for delivery at Govt Rajamirasudar Hospital Thanjavur Medical College, Thanjavur for the period of one year from January 2020 to December 2020. After taking proper history , clinical examination and specific investigation the clinical diagnosis was made in consultation with the cardiologist. Detailed study was done based on diagnosis, identification of risk factors, anticipating complication, incidence and different types of cardiac lesion and mode of delivery , maternal outcome and mortality were analysed.. The mode of delivery that namely Labour natural, spontaneous expulsion, instrumental delivery and cesarean section were analysed respectively.

The necessary investigations like basic blood test, urine analysis, ECG, echocardiogram were done in all cases.

INCLUSION CRITERIA:

All pregnant women admitted with diagnosed heart disease and diagnosed after admission in study centre during study period were included in this study.

EXCLUSION CRITERIA:

Patients other than heart disease.

RESULTS

During the period of one year study (a total number of deliveries were 13,662),306 cases of pregnant women with cardiac disease admitted to GOVT.RMH,Thanjavur, satisfying the inclusion criteria were studied, the incidence was 2.2 %. Adverse maternal outcome and maternal death were also noted. Incidence of cardiac disease at our centre was **2.2%.**

Table 1: comparison of prevalence of heart disease complicating pregnancy with respect to age:

AGE GROUP	TOTAL NOS(306)	%
< 20	35	11.43
21-25	107	34.96
26-30	128	41.83
>30	36	11.76

Among 306 cardiac patients, majority of patients were in the age group of 26-30 years (41.83%), 11.76% belonged to >30 years and 11.43% was in < 20 years (as shown in Table 1).

Table2:Distribution of heart disease with respect to parity.

PARITY	TOTAL NOS(N=306)	%
PRIMI	**140**	**45.75**
2ND GRAVIDA	**94**	**30.71**
3RD GRAVIDA	**42**	**13.72**
4TH GRAVIDA	**21**	**6.86**
5th GRAVIDA	**9**	**2.94**

Respect to the parity ,the incidence of cardiac disease is higher among primi gravida-**45.75**%.Followed by second gravida is around-30.71%.(as shown in Table 2).

Table 3:distribution Of Heart Disease With Respect To Type Of Lession

TYPES	NUMBER	PERCENTAGE
Acquired heart disease	**262**	**85.6**
Congenital heart disease	**44**	**14.4**
	306	**100%**

DIAGNOSIS	TOTAL	%	SUBTYPES	NUMBER	%
Valvular heart disease	223	72.9%	MS	56	18.3%
			MR	122	39.9%
			AS	5	1.7%
			AR	14	4.6%
			TR	18	5.9%
			PS	8	2.6%
CONGENITAL HEART DISEASE	44	14.4%	ASD	19	6.2%
			VSD	8	2.7%
			BICUSPID AORTIC VALVE	5	1.7%
			PDA	3	0.9%
			EBSTEIN ANOMALY	3	0.9%
			DEXTROCARDIA	2	0.6%
			CONGENITAL HEART BLOCK	4	1.3%
PULMONARY HYPETENSION	25	8.2%	PULMONARY HYPETENSION	25	8.2%
CARDIOMYOPATHY	14	4.5%	PPCM	14	4.5%
	306	100			

The most commonly found valvular lesion in the present study was mitral valve disease (58.16%) affected by rheumatic fever, followed by aortic valve disease (6.20%).Among 306 cardiac cases the incidence of Congenital heart disease is around 44(14.4%).Among Congenital heart disease number of ASD cases is 19(6.2%). VSD placecs second to ASD-8cases(2.7%)

Table 4: Maternal Outcome Of Pregnancy In Term Of Mode Of Delivery

MODE OF DELIVERY	TOTAL NOS	%
OUTLET FORCEPS	143	46.7
CASEREAN SECTION	125	40.9
LABOUR NATURAL	27	8.9
MVA	8	2.6
SPONTANEOUS EXPULSION	3	0.9
TOTAL	306	100
MATERNAL DEATHS	3	1.SEVERE MS 2.SEVERE AORTIC STENOSIS. 3.IUD WITH SEPSIS WITH UNDERLYING VSD

Out of 306 patients, eight (2.6%)women had abortions. Based on mode of delivery, as per protocol the second stage of labour was cut short by outlet forceps so percentage of outlet forceps is on higher side with46.7% next to instrumental delivery LSCS with 40.9%. In present study heart disease was attributed 9.6% of (3cases)maternal mortality..

DISCUSSION

This study was conducted in the Department of Obstetrics and Gynaecology, Govt. Raja Mirasudar Hospital, Thanjavur . A total of 306 pregnant women with cardiac disease were included in this study. Echocardiography was done routinely in our patients. Echocardiography was helpful for early and accurate evaluation of cardiac lesions In the present study, the prevalence of 2.2% was found.An increased prevalence of cardiovascular disease (CVD) has been found in women of childbearing age.The incidence of heart disease in the current study-table-1 among 306 cardiac patients, majority of patients were in the age group of 26-30 years (41.83%), 11.76% belonged to >30 years and 11.43% was in < 20 years.Table-2-most of them were either primigravidae **45.75**%. followed by second gravida is around-30.71%.

Table-3-In the current study RHD (72.2%) was the principal cardiac lesion. Among the RHD the most commonly involved valve was mitral valve (58.16%) followed by aortic valve(6.20%). In this study,subtype of mitral valve disease, the most common valvular lesion was found to be mitral regurgitation (39.9%) followed by mitral stenois-18.3% followed by aortic valve disease.

Out of 306 cardiac cases the incidence of Congenital heart disease is around 44(14.4%).Among Congenital heart disease number of ASD cases is 19(6.2%). VSD placecs second to ASD-8 cases(2.7%). The observations in the present study were comparable with other studies done by Sheela et al and Balasaheb V et al.

Reference totable-4 While studying the mode of delivery 170 patients delivered vaginally out of which 143 patients had instrumental vaginal delivery(outlet) to cut short the second stage of labor as per protocol and 27 cases delivered by labour natural and 125patients had cesarean section, the indication mainly on obstetric condition. 2.6% of patients had undergone MTP 27 (8.8%).

The maternal mortality is used as a measure of the quality of a healthcare system. With the increase in prevalence of heart diseases in pregnant women, it has emerged as an important cause of maternal mortality especially so in the developing countries like India. In present study heart disease was attributed in 9.6% of cases of maternal mortality. (Konar H et al., stated that heart diseases associated with pregnancy accounted for 15% of pregnancy related mortality).We had found three maternal death in the present study and the cause of death was due to severe AS WITH PULMONARY Hypertension and second case was due to severe MS with pulmonary oedema and third case is due to IUD with sepsis with underlying VSD.

Multidisciplinary approach with careful monitoring of high risk cases which is apparently the reason for lesser number of women dying due to cardiac related causes at our institute.

CONCLUSION:

Early diagnosis of heart disease, regular antenatal check-up, institutional delivery, limiting family size can reduce the maternal and perinatal mortality and morbidity associated with heart disease.Present study data supports the fact that the prognosis of pregnant women with heart disease has improved, leading frequently to successful outcome. This study concluded that Rheumatic heart disease is still rampant in India and leads to huge burden on our health care system so pre- pregnancy diagnosis, preconceptional counseling, appropriate referral, surgical correction of cardiac lesions where indicated, maternal and fetal close surveillance during pregnancy and labour with a multidisciplinary team approach comprising of obstetricians, cardiologists, neonatologists and nursing personnel may significantly improve maternal and fetal outcome in pregnancy.

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