



STUDY OF FETO-MATERNAL OUTCOME AMONG PREGNANT WOMEN WITH CARDIAC DISEASE AT TERTIARY CARE CENTRE

Gynaecology

Dr Ekta Jauhari * Post Graduation 3rd Year ,dept Of Obstetrics And Gynecology ,national Institute Of Medical Science . *Corresponding Auhor

Dr Deepa Masand Professor , Dept Of Obgy ,NIMS , Jaipur.

KEYWORDS

INTRODUCTION

- Maternal mortality in India is a matter of concern. Heart disease complicates around 1-3% of all pregnancy and accounts for 10-15 % of maternal death^{1,3}. It is a high risk condition. Its management is combined effort and vigilant monitoring of cardiologists and obstetricians.
- Advancement in form of curative cardiac surgery enabling women to reach child bearing age in a favourable condition to tolerate the haemodynamic load of pregnancy.
- Rheumatic heart disease is still a major cause followed by congenital heart disease in developing countries like India.
- The effect of heart disease on the outcome of pregnancy can be greatly modified by the good medical conditions and by undertaking cardiac surgery whenever indicated and multidisciplinary approach.

AIMS AND OBJECTIVE

To assess the primary outcome as maternal morbidity & mortality & secondary outcomes as other cardiac, obstetrics & foetal complication

METHODOLOGY

- This is an observational study conducted at the department of obstetrics and gynecology in National Institute of Medical Science and Research centre , Jaipur for the period of 18 months from december 2018 to may 2020 in 56 pregnant women with cardiac disease.

INCLUSION CRITERIA

- All pregnant women with either existent or newly diagnosed cardiac disease.

EXCLUSION CRITERIA

- All the medical condition mimicking heart disease (cardiac failure due to non-cardiac causes)

STATISTICAL ANALYSIS

- Use of SPSS software and depiction as chart and table considering p value of <0.05 significant

RESULT

- A total of 56 pregnant women with cardiac disease were included in this study. Of the 56 patients , 37.5% belongs to age group 21-25 years

MATERNAL AGE WISE DISTRIBUTION

MATERNAL AGE	NUMBER	%
18-20	12	21.4
21-25	21	37.5
26-30	15	26.7
31-35	6	10.7
>35	2	3.5

OBSTETRICAL STATUS Of 56 patient , 83.9% were booked and 16.0% were unbooked

STATUS	NUMBER	%
BOOKED	47	83.9
UNBOOKED	9	16.0

PARITY DISTRIBUTION Among 56, 53.5% were multigravida

PARITY	NUMBER	%
PRIMI	26	46.4
PAROUS	30	53.5

FUNCTIONAL CLASSIFICATION OF THE DISEASE

- Most of the patient belong to NYHA class 1 (53.5%) . Patients belonging to class III & IV had adverse fetal and maternal outcome

CLASS	NUMBER	%
I	30	53.5
II	21	37.5
III	4	7.14
IV	1	1.7

PREGNANCY OUTCOME

- Out of 56 patients , MTP was advised by cardiologist because of NYHA class III AND IV and poor cardiac status .
- So out of 49 , 40 reached term pregnancy because of better clinical care and multidisciplinary approach and 9 delivered before term .

OUTCOME	NUMBER	%
ABORTION	7	12.5
PRETERM	9	16.0
TERM	40	71.4
POSTDATISM	00	00

MODE OF OUTCOME

- Out of 56 , 2 patient were aborted medically , 3 patients were aborted surgically and 2 underwent spontaneous abortion .

MODE	NUMBER	%
MEDICAL	2	3.5
SURGICAL	3	5.3
SPONTANEOUS	2	3.5

- 33 delivered vaginally including instrumental delivery and 16 went for LSCS , 6 for elective & 10 for emergency .

VAGINAL	NUMBER	%
NORMAL	23	46.9
VENTOUSE	3	6.1
FORCEP	6	12.2
ASSISTED BREECH	1	2.04
LSCS		
ELECTIVE	6	12.2
EMERGENCY	10	20.4

- LSCS was done due to obstetrics and cardiac indication of atrial fibrillation , malpresentation and CPD and for emergency LSCS were foetal distress , induction failure and impending scar dehiscence .

ETIOLOGY OF HEART DISEASE

- In 66.0% of rheumatic heart disease most common RHD was mitral stenosis. And 33.3 % were of congenital heart disease which comprises ASD followed by VSD

ETIOLOGY	NUMBER	%
RHEUMATIC	37	66.1
CONGENITAL	19	33.9

ASSOCIATED CONDITION

CONDITION	NUMBER	%
ANEMIA	29	59.1
PRE ECLAMPSIA	5	10
RH NEGATIVE	3	6.1
HYPOTHYROIDISM	2	4
ABRUPTIO PLACENTAE	1	2
CCF	1	2

PULMONARY OEDEMA	1	2
MORTALITY	00	00

In 56 patients, 42 patients who presented with high risk, 59.1% were anemic, 10% had pre eclampsia, 2% presented with abruptio, CCF and pulmonary oedema and there was no mortality.

NEONATAL OUTCOME

Out of 26 NICU admissions prematurity was observed in 18.3% and IUGR in 16.3%. 8% babies had birth asphyxia and 10% of babies had MSAF. There were no perinatal mortality.

OUTCOME	NUMBER	%
PREMATURITY	9	18.3
IUGR	8	16.3
BIRTH ASPHYXIA	4	8
MSAF	5	10
MORTALITY	0	0

DISCUSSION

In pregnancy, heart disease is a major contributing factor for morbidity and mortality both in mother and neonate. Due to surgical repair technique incidence of congenital heart disease has reduced but in developing countries like India rate of congenital and rheumatic heart disease is still high due to various reasons including poor socio economic status, ignorance about symptoms and negligence.

83.9% of women were booked while 16.0% were unbooked which signifies awareness of their high risk condition.

Of the 56 women in this study, 46.4% were primigravida and 53.5% were multigravida depicting good pregnancy outcome of first pregnancy because of better facility and awareness of risk associated. This was comparable with Behera Ret al⁴. This study shows that majority were of age between 21 to 25 years showing the prevalence of conception in young age.

Even Behra R et al⁴ and Sengodan SS et al⁵ mentioned about the high prevalence of rheumatic heart disease 66% followed by congenital heart disease 33.9%. Mitral stenosis was the most common lesion among the rheumatic heart disease and atrial septal defect among the congenital heart disease.

0.3% to 3.5% of Rheumatic heart disease gets complicated in females of child bearing age with global figure of 1%⁶. RHD accounts for 30% in pregnancy in developed countries and 90% of cardiac lesion in developing countries^{7,8}.

Out of 56 patients 53.5% were in NYHA class 1 and 37.5% were in class 2. Patient who were in NYHA 3 and 4 and 1 patient who were of grade 4 WHO underwent abortion. This result was comparable with Indira et al⁹ and Behera Ret al⁴.

Out of 56, 2 patients reported early from cardiology department for MTP owing to their cardiac condition so 1 underwent medical abortion and 2 surgical abortion and 1 was of WHO grade IV.

Of the 33 deliveries, 46.9% delivered vaginally and 32.8% had cesarean section. The most common indication for LSCS is fetal distress with non reassuring CTG and others were being CPD, failed induction and malpresentation. Because of strict vigilance and multidisciplinary approach patient reached term and mostly delivered vaginally but due to obstetrics indication and cardiac complication few underwent cesarean section. This was comparable with Sima Biswas et al¹⁰.

In our study, associated condition was observed in 42 patients. Majority were of anemia 59.1% depicting the nutritional status of the patient. 10% had pre eclampsia and 6.1% were of RH negative pregnancy, 4% were of known case of hypothyroidism followed by 2% had congestive cardiac failure and pulmonary oedema and abruptio was observed in 2%. Due to strict monitoring and ICU care there was no maternal mortality. Results were comparable with Indira et al⁹.

In this study we had 26 NICU admissions due to prematurity, IUGR, birth asphyxia and MSAF and no perinatal mortality.

CONCLUSION

While pregnancy with cardiac condition is associated with high risk of maternal mortality and cardiovascular, obstetrics and foetal complication, many patients tolerate pregnancy well. Recent

advancement in cardiology may result in more successful management of pregnant cardiac patients. Hence, a constant vigilance in form of regular early diagnosis, regular follow up and joint management by obstetrician, cardiologist, anesthetist and neonatologist will go in a long way in ensuring a good prognosis among the pregnant females with cardiac condition.

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