



Cardiac diseases with pregnancy - A study of maternal and fetal outcome

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Abstract

Background: Total 0.2% to 4% of all pregnancies are complicated by cardiac diseases. In non western countries, rheumatic heart diseases (RHD) constitute 56-89% of the cases and congenital heart diseases only 9-19%.

Aim and objectives: To review all obstetric patients with co-existing cardiac diseases admitted to a tertiary care center over a period of one year and ascertain the causes of admissions and the maternal and perinatal morbidity and mortality.

Material and methods: A retrospective, analytical study of all patients with cardiac diseases who delivered over a period of January 2013 to December 2013 was conducted. A tabulated representation of the data was done. The various cardiac diseases were categorized according to their severity, NYHA category, type of pathology, the maternal and perinatal outcome was assessed and maternal mortality and perinatal mortality was recorded.

Conclusion: Total 69% cardiac lesions in pregnancy were rheumatic in origin and 15% belonged to high risk category while 13.1% were NYHA type IV. Total 69% deliveries were by vaginal route. Epidural analgesia preferred in LSCS of cardiac patients. Perinatal and maternal complications were observed to increase with increase in NYHA class.

Key words

Cardiac diseases, Rheumatic, Obstetric.



Introduction

Total 0.2% to 4% of all pregnancies are complicated by cardiac diseases [1]. In non western countries, rheumatic heart diseases (RHD) constitute 56-89% of the cases and congenital heart diseases only 9-19% [2, 3]. Total 2.7 deaths per 1000 pregnancies are reported in pregnancies complicated by cardiac diseases [4].

Aim and objectives

- To study the incidence, distribution through parity and the prevalence of various cardiac diseases in pregnancy.
- To classify those into three risk categories i.e. low, moderate, high [5].
- To study the maternal and fetal outcomes in each case.

Material and methods

A retrospective, analytical study of all patients with cardiac diseases who delivered over a period of January 2013 to December 2013 was conducted. A tabulated representation of the data was done. The various cardiac diseases were categorized according to their severity, NYHA category, type of pathology, the maternal and perinatal outcome was assessed and maternal mortality and perinatal mortality was recorded. Total 59 cases out of 7053 deliveries were studied.

Results and Discussion

Incidence of cardiac diseases was 8.36/1000 deliveries. The number of booked cases was 34 (57.6%). Most patients were primi para (n=22, 37%). The majority belonged to an age group of 20 years to 25 years (53%). According to the type of cardiac disease, valvular heart diseases

constituted the majority of cases (95.3%, n=41 cases) of which (41/43 cases) were rheumatic in origin. Out of 41 cases, isolated mitral stenosis (MS) constituted 85% of cases, combined valvular diseases 14.6% of cases and mitral valve prolapse 4.8% of cases. Total 11.6% (5 cases) had undergone balloon mitral valvoplasty preconceptionally, 30.23% (13 cases) developed secondary pulmonary hypertension. All lesions of rheumatic origin were on Injection Penidura intramuscularly (IM) every 21 days.

There were cases of congenital heart diseases that was nearly 15% (n=9) of total. They could be further classified as cyanotic (62.5%, n=5 cases), all of which were atrial septal defects which could further be classified into ostium secundum type (n=4) (majority) and sinus venosus type (n=1). Total 37.5% (n=3) cases of congenital heart diseases were acyanotic in nature. Two of these were cases of Ebstein Anomaly and one was Tetralogy of Falot. Total 2 patients out of 9 with congenital heart diseases (25%), had undergone mitral valve replacement (MVR).

Total 19 patients (32%) had developed secondary pulmonary hypertension which could further be divided into mild (n=9), moderate (n=6) and severe (n=3) and one case of Eisenmenger Syndrome. There were 11% (n=7) cases with cardiomyopathies of which two were of dilated cardiomyopathies and five cases were of peripartum cardiomyopathies.

The various maternal complications could be classified into obstetric and cardiac types. Coming to the fetal outcome we observed that there was higher incidence of preterm delivery (19%) and a higher incidence (17%) of low birth weight neonates.

Total 69% cardiac lesions in pregnancy were rheumatic in origin and 15% belonged to high



risk category and 13.1% were NYHA Type IV. Total 69% deliveries were by vaginal route. Epidural analgesia preferred in lower section cesarean section (LSCS). Perinatal and maternal complications increased with increase in NYHA class. Infective endocarditis prophylaxis was given in all cases empirically. Anticoagulation was offered in two cases with prior mitral valve replacement. The rate of both preterm birth and perinatal mortality was high. **(Chart 1 to 9)**

Conclusion

Cardiac diseases take a heavy toll on both maternal and fetal health. A multi disciplinary approach is ideal in dealing with and preventing complications. Counselling for contraception and family planning and follow up during subsequent pregnancies is mandatory.

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Chart – 1: Distribution according to risk classification.

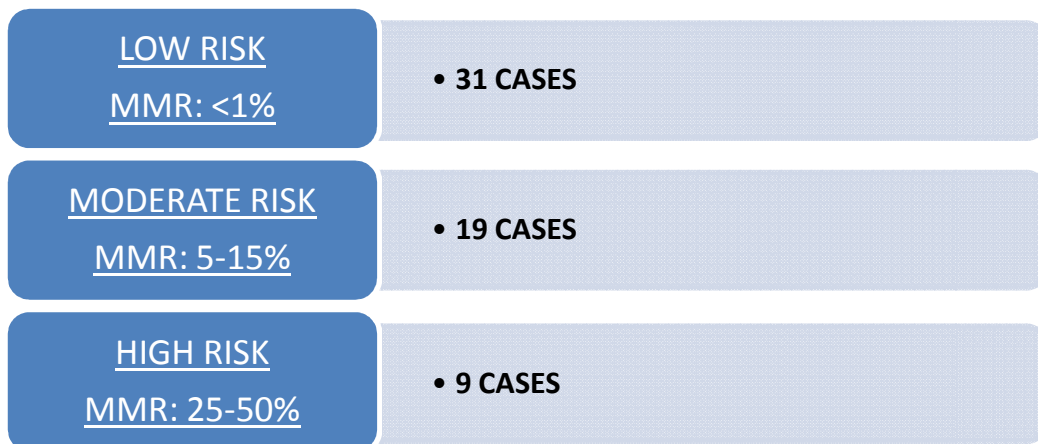


Chart – 2: Distribution according to NYHA grading [4].

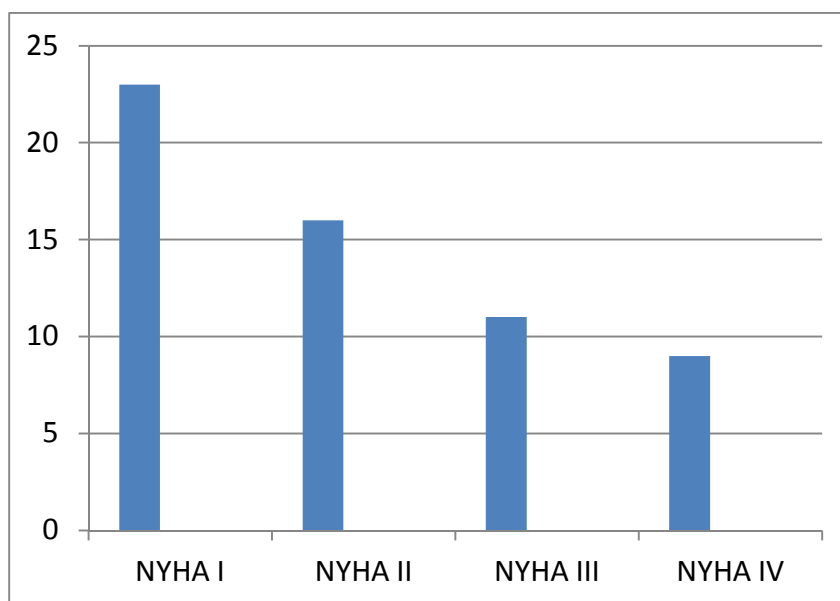


Chart – 3: Pregnancy outcome in each case.

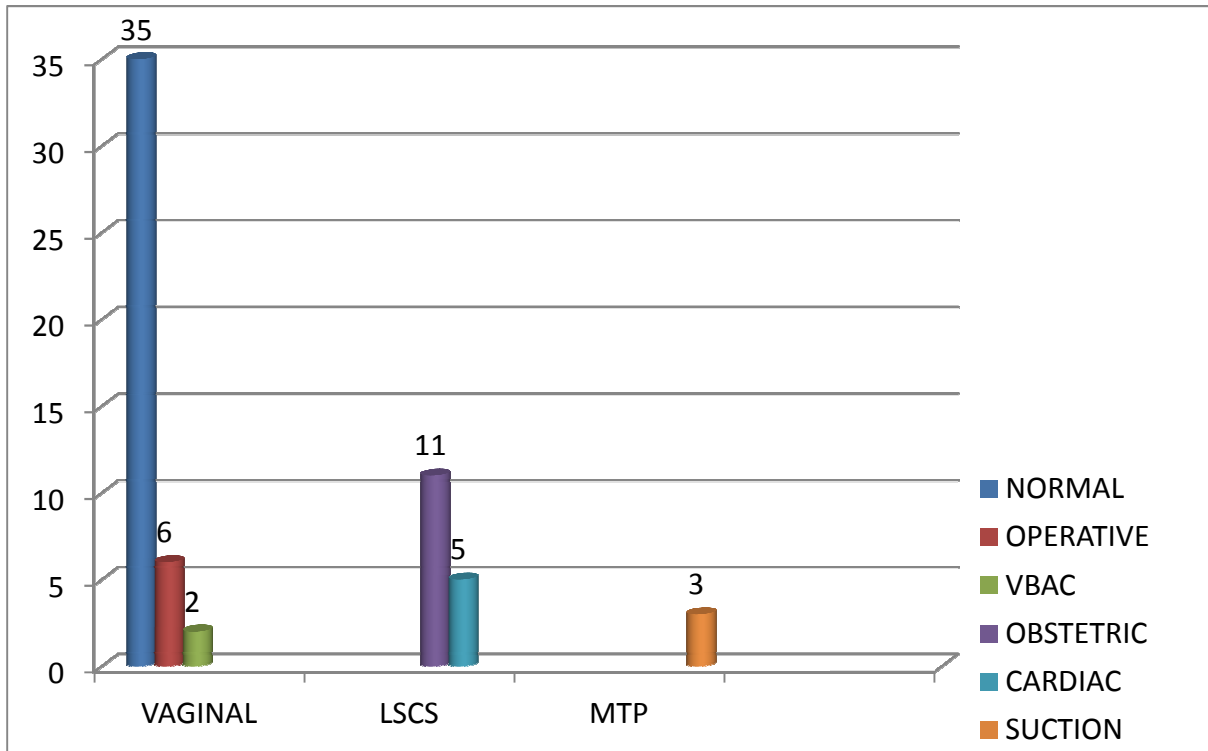


Chart – 4: Pregnancy outcome.

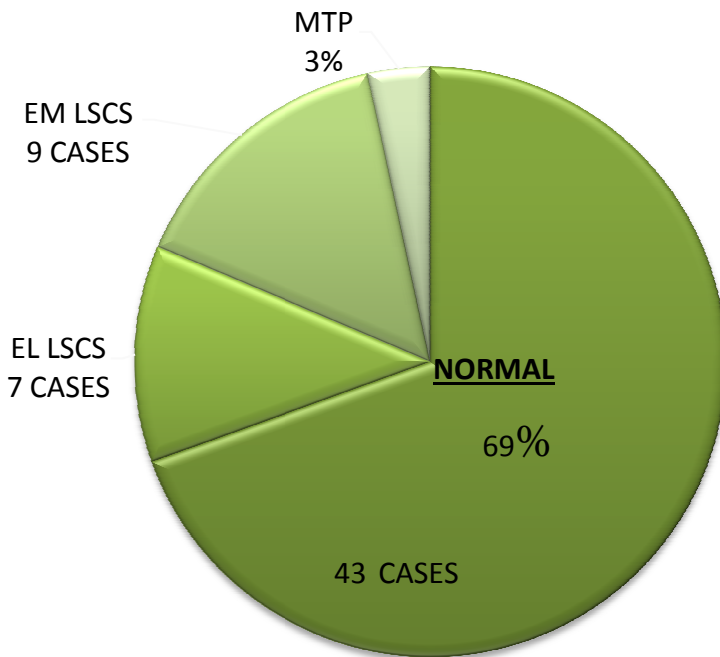


Chart – 5: Obstetric complications.

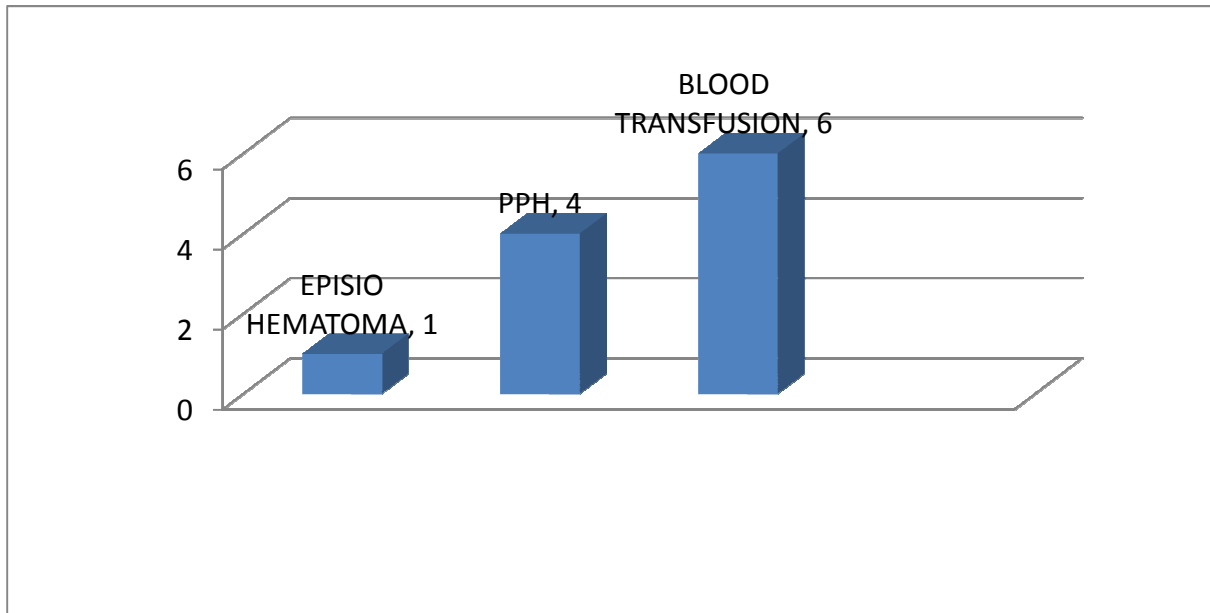


Chart – 6: Cardiac complications in course of pregnancy.

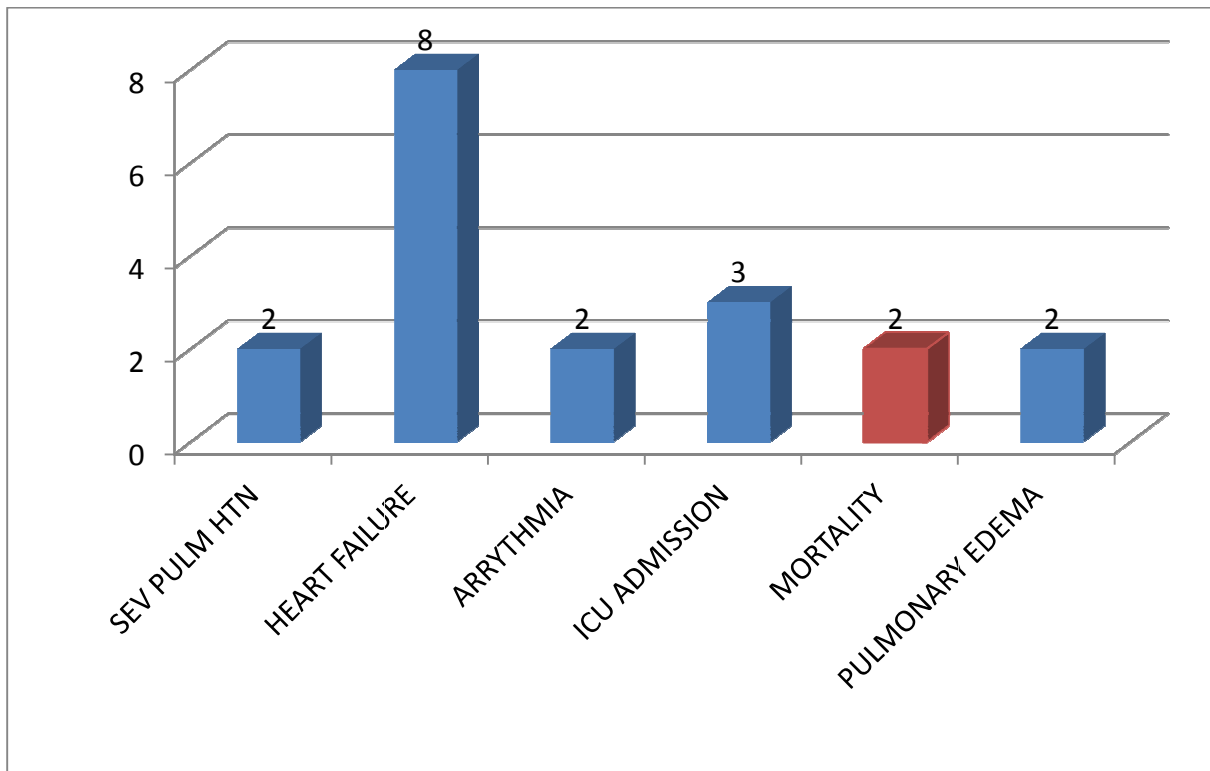


Chart – 7: Maturity of newborn infants.

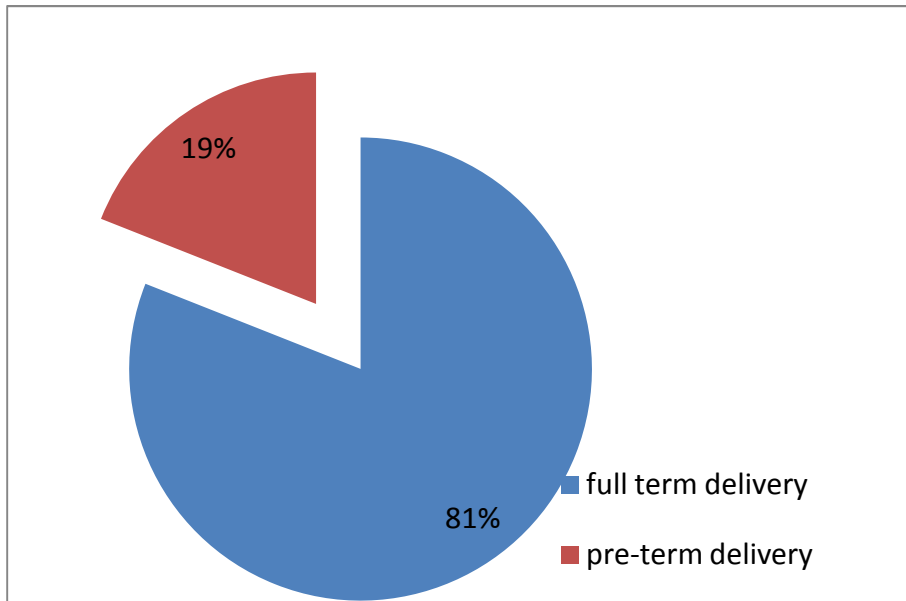


Chart – 8: Distribution of birth weight of neonates.

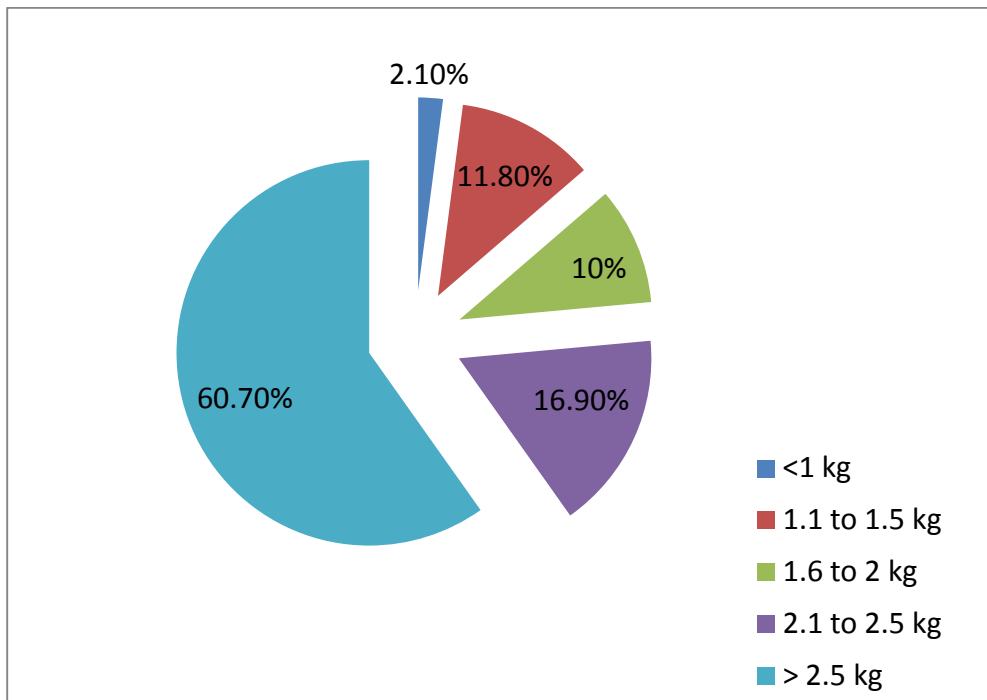
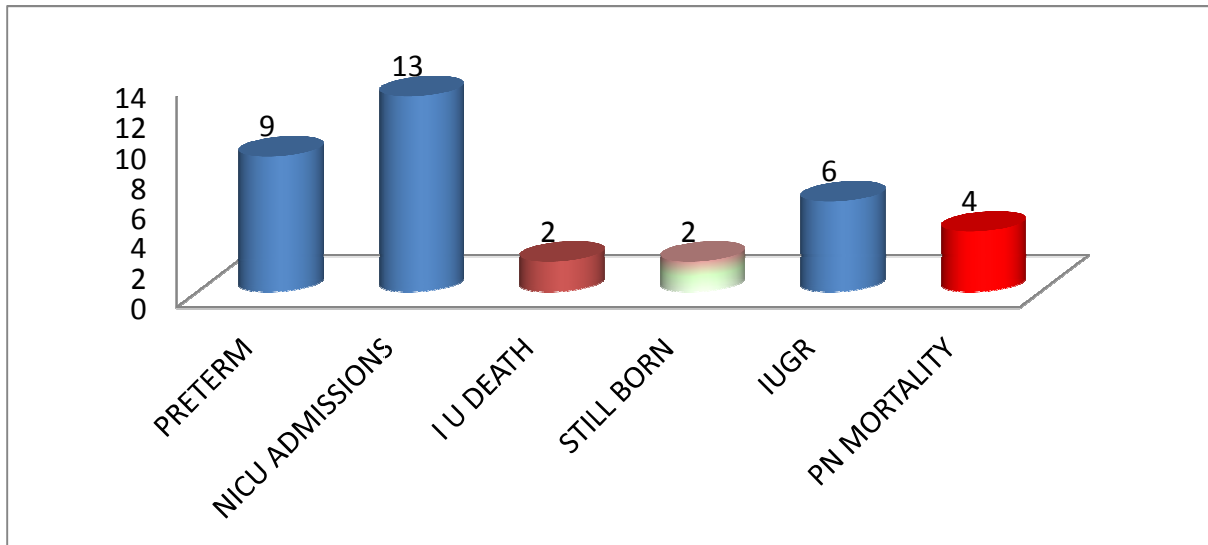




Chart – 9: Perinatal outcome.



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