AICOG 2025
Mumbai
67th All India Congress of Obstetrics & Gynaecology
FOGSI celebrates 75 years – Diamond Jubliee
8-12 January, 2025 | JIO World Convention Centre

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Title: Study of adverse cardiac events and interventions in pregnant women with heart disease

Introduction

- Cardiac disorders are observed in approximately 1% of pregnancies, they account for morbidity and mortality rates and post challenges in management
- Diseases of heart are broadly divided into:
  Congenital :- Atrial septal defect,
  Ventricular septal defect
  Acquired :- Rheumatic heart disease,
  Cardiomyopathies.
- Over 50% of maternal deaths occur post-partum.
- Up to 68% pregnancy related deaths caused due to cardiovascular conditions are preventable

Objectives

- To study the frequency of cardiac diseases in pregnant women.
- To study the adverse cardiac events in pregnant women with heart disease.
- To study interventions done in pregnant women with heart disease.
- To study correlation between adverse cardiac events and interventions with fetomaternal outcome

Materials and methods

The study was conducted in Department of Obstetrics & Gynaecology ,KGMU ,Lucknow in collaboration with Department of Cardiology , KGMU, Lucknow after getting approval of Institutional ethics committee research cell, KGMU ,Lucknow.

Duration :- 7 years (2018-2024)

Study Design :- Retrospective Observational study.

Sample size:- 150 patients.

Inclusion Criteria:

- All antenatal patients and till 1 months postpartum diagnosed with heart disease.
- Patients who have a history of congenital heart disease , valvular heart disease , ischemic heart disease, arrhythmia or prior cardiac surgery

Exclusion Criteria:

- Patient not giving consent
- Patients undergoing MTP.

Results

A study of 150 pregnant women with heart disease found 30% experienced adverse cardiac events a .mainly heart failure (15%) and arrhythmias (10%) associated with 20% preterm deliveries and NNU/NICU admission . Congenital heart disease and cardiomyopathy had the highest complication rates . Timely interventions,medication adjustments, and monitoring improved maternal and fetal prognosis.

Review of Literature

Journal of the American College of Cardiology

A search of peer reviewed literature was conducted to identify reports providing data on complications associated with pregnancy in women with structural congenital heart disease This review describes the outcome of 2491 pregnancies including 377 miscarriages(15%) 144 elective abortions (5%).

Important cardiac complications were seen in 11% of the pregnancies , Obstetric compulsions were not prevalent.

In complex CHD premature delivery rates are high ,and more children are of small gestational age.

Methodology

- Details of pregnant women with heart disease admitted from January 2018 – December 2024 will be collected .
- Details of clinical history , symptoms, Obstetrics history , examinations and investigations including ECHO will be noted.
- Maternal age, parity, NYHA functional class mWHO heart disease classification will be noted.
- Any adverse event like heart failure, arrhythmia, Thrombembolism, will be noted.
- Details of interventions done during or before pregnancy will be noted.
- Details of cardiac metabolism will be noted.
- Details of maternal outcome pregnancy specific complications delivery details will be noted.

Conclusion

The study highlights the high risk of adverse cardiac events in pregnant women with pre-existing heart disease, especially those with congenital heart conditions and cardiomyopathies. It emphasizes the need for early identification, multidisciplinary management, and tailored interventions to improve maternal and fetal outcomes. The findings emphasize the importance of comprehensive care protocols for managing heart disease in pregnant women.

Refrences

- ACOG Practice bulletin no. 212: Pregnancy and Heart disease
- Centers for Disease control and prevention pregnancy mortality surveillance system
- American college of obstetricians & gynecologists presidential task force on pregnancy and heart disease
- M.B Davis, M.N. Walsh Cardio-obstetrics: team based care to improve maternal outcomes