

INTRODUCTION

- The incidence of congenital heart disease is 9/1000 live births
- Advances in medical and surgical treatments have led to more than 90% of children with congenital heart disease (CHD) surviving into adulthood. While many women with CHD tolerate the hemodynamic changes of pregnancy, others may face significant risks.
- ACHD encompasses a heterogeneous group of the disorders and there are very few studies that have assessed the maternal and neonatal outcomes in the different subtypes of ACHD

AIM

- To study maternal and neonatal outcomes in women with various types of ACHD

METHODOLOGY

- This is a retrospective study carried out over a period of 10 years, from January 2010 to December 2019 to study the maternal and neonatal outcomes in women with various types of ACHD. Information regarding preconception counselling, booking status, type of congenital heart disease, maternal morbidities in the form of cardiac complications, hypertensive disorders and anemia, gestational age at delivery, mode of delivery, immediate postpartum complications, neonatal outcomes including, birth weight, neonatal morbidity in the form of NICU admission, neonatal jaundice, respiratory distress, sepsis and neonatal death was collected from electronic medical records

RESULTS

- The study included 78 women with 91 pregnancies with various types of ACHD.
- 81% were booked pregnancies. 10% (n = 8)women had preconception counselling.
- 15.4% (12)women had de novo detection of ACHD in pregnancy. Which included VSD, ASD, Ebstein anomaly
- 13 pregnancies were complicated by PAH, of which 1 women had severe PAH and developed cardiac failure at 29 weeks.
- None of the women had any immediate postpartum cardiac complications.
- Most common indication for Caesarean births was previous caesarean (34%) Only 13% women had caesarean for maternal medical disease.
- 2 babies had CHD (1 ASD and 1 VSD) lesion same as that of mother.
- Women who had pre conception counselling and those with repaired CHD had better pregnancy outcomes than those referred late in pregnancy or with uncorrected CHD.

VARIOUS TYPES OF ACHD AND THEIR CARDIAC COMPLICATIONS IN PREGNANCY

Lesion	Corrected	Uncorrected	Cardiac complications (all seen In Uncorrected)
Atrial Septal Defect(ASD) (35%)	11	16	Mild PAH – 6 Cardiac failure - 1
Ventricular Septal Defect (VSOD) (27%)	4	17	Mild PAH – 4 Eisenmengers - 1
Patent Ductus arteriosus (PDA) (9%)	5	2	None
Tetralogy of Fallot (TOF) (11.5%)	9	-	Severe PAH and cardiac failure 1
Bicuspid aortic valve (6.4%)	4	1	Cardiac failure 1
Coarctation of Aorta (1.3%)	1	-	None
Ebstein's Anomaly with severe TR (2.6%)	-	2	None
Pulmonary Stenosis (2.6%)	1	1	Cardiac failure at 27 weeks, underwent pulmonary valvuloplasty
Mitral Valve Prolapse (1.3%)	-	1	None
Transposition of Great Vessels (1.3%)	Congenitally corrected - 1		None
Patent Foramen Ovale (2.6%)	1	1	None
Total Anomalous Pulmonary Venous Connection(1.3%)	1	-	None

PRECONCEPTION COUNSELLING AND OUTCOMES

Lesion	Corrective surgery	Complications	Gestational age at delivery (weeks)
VSD with mild PAH	None	Gestational HTN	35
VSD	None	Preeclampsia, FGR	30
ASD	None	Severe pre eclampsia, FGR	30
Corrected TOF	Yes, with residual severe PR	None	38
ASD	None	Lupus nephritis class IV, preeclampsia	32, 37 (2 pregnancies)
Bicuspid aortic valve with mild AS	None	Cardiac failure at 19 weeks	38
VSD	Yes	Anemia, FGR	38
ASD with pulmonary stenosis	Yes	None	37

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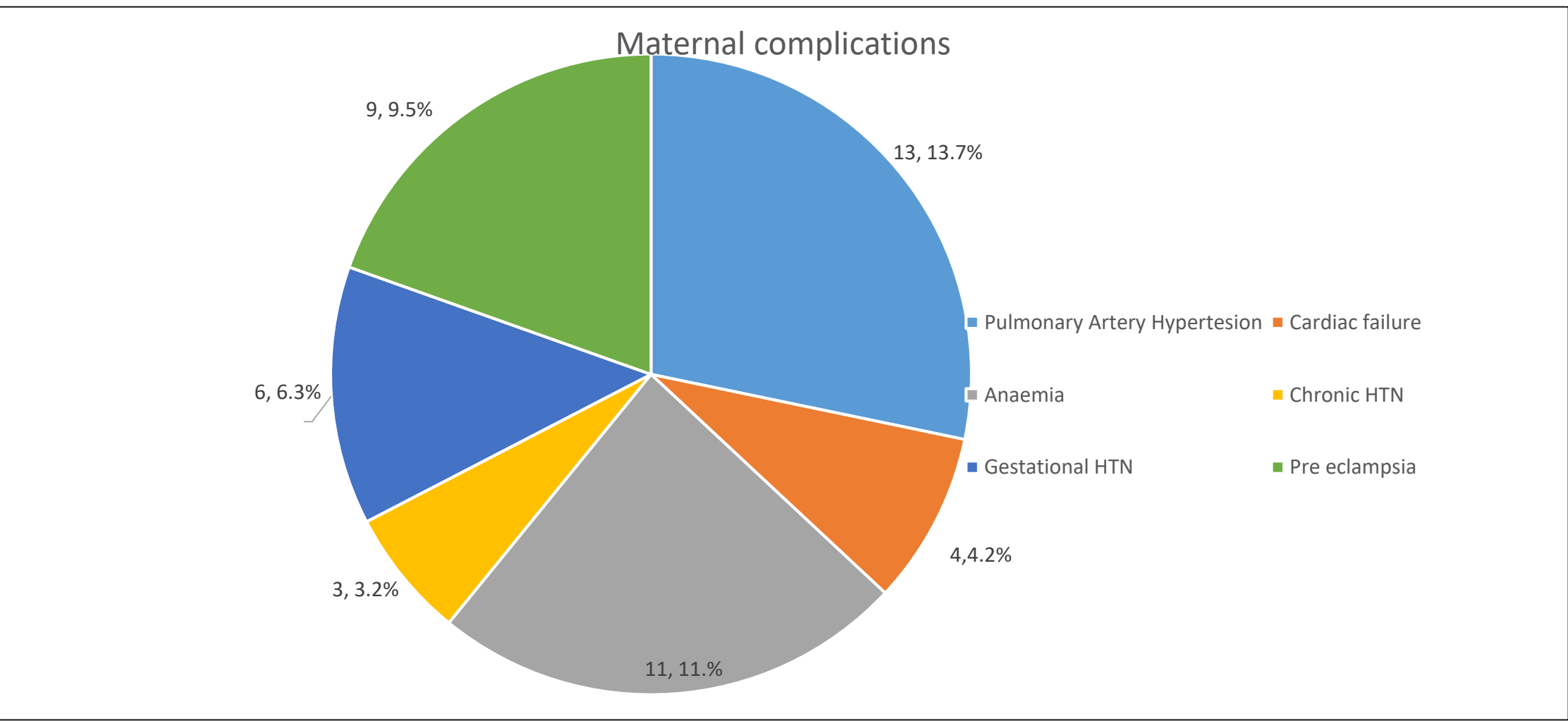
BIRTH DETAILS

Average gestational age at delivery	37 weeks
Incidence of Preterm delivery	30%
Spontaneous vaginal births	25.2% (23)
Assisted vaginal births	14.3% (13)
Cesarean births	60% (55)

NEONATAL OUTCOMES

Average birth weight	2.65 kg
Small for gestational age	8.8% (8)
Stillbirths	1
Neonatal deaths	0
NICU admissions	22(23%)
Respiratory distress	14
Neonatal jaundice	26
Suspect/probable sepsis	11
Septic shock	1
Congenital Heart Disease(CHD)	2(2%)

MATERNAL COMPLICATIONS



CONCLUSION

- Most women with uncomplicated and completely corrected congenital heart disease tolerate pregnancy well and can have uneventful deliveries, but, women with complex congenital heart diseases are at increased risk for adverse pregnancy outcomes and the outcomes may be improved with preconception counselling and tailoring the antenatal care to address the subtype of ACHD
- In our analysis we found 15.4% women were diagnosed with CHD in pregnancy, thereby reinforcing the importance of routine cardiac examination in pregnancy