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Maternal and Perinatal Outcomes in Preeclampsia,Eclampsia – A Retrospective Study

Medical Science

KEYWORDS :
Preeclampsia,eclampsia,maternal morbidity&mortality,perinatal morbidity&mortality.

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ABSTRACT

BACKGROUND:
Hypertensive disorders of pregnancy are associated with significant maternal morbidity,mortality and responsible for 20% of perinatal mortality,morbidity.This retrospective study is about the maternal and perinatal outcomes in pregnancies complicated by preeclampsia and eclampsia.

METHODS:
Total 8108 deliveries which occurred between july 2014 to june 2015 at Government Kasturba Gandhi hospital,Chennai were taken up for the study.Among those deliveries,pregnancies complicated by preeclampsia,eclampsia were evaluated for their outcomes.

RESULTS:
During the study period,incidence of preeclampsia was 5.9%,eclampsia was 0.38%.About 3.4% of maternal deaths and 10.3% of perinatal deaths were due to preeclampsia,eclampsia.

CONCLUSION:
Increased maternal morbidity&mortality,perinatal morbidity&mortality were more among the pregnancies complicated by preeclampsia,eclampsia.

INTRODUCTION:

HYPERTENSION:-According to NHBPEP, it is defined as systolic B.P. of more than or equal to 140 mm Hg & diastolic B.P. of more than or equal to 90 mm Hg, taken at 2 occasions 6 hours apart. Diastolic BP is determined as the disappearance of korotkoff sound (phase V).

PREECLAMPSIA:-Hypertension associated with proteinuria >0.3g/l in 24 hour urine collection or 1+ by qualitative urine examination after 20weeks of gestation, during labour, puerperium in a previously normotensive non proteinuric women and returns to normal by 12 weeks postpartum.

ECLAMPSIA:-Convulsions / coma occuring in a patient with preeclampsia are known as eclampsia.

INCIDENCE:-

Incidence of Hypertensive disorders of pregnancy is about 12% -22%of all pregnancies.

Preeclampsia – 5% - 8%.

RISK FACTORS:-

Nulliparous women Genetic predisposition Environment factors Obesity	Multiple pregnancies Molar pregnancy Diabetes

ETIOLOGY:-

According to SIBAI (2003) currently plausible potential causes include, Abnormal trophoblastic invasion of uterine vessels.

Immunological intolerance between maternal and fetoplacental tissues Maternal maladaptations to cardiovascular (or) inflammatory changes of normal pregnancy.

Nutritional factors – Zinc, calcium, Magnesium deficiencies

Genetic factors

Failure of second wave trophoblastic invasion leads to diminished uteroplacental blood flow, increased pressor responses due to alteration in $PGF_2 \alpha$ and thromboxane A_2 synthesis, decreased Nitric oxide synthesis, increased endothelin -1 production, endothelial cell injury and vasospasm forms the basis for the all the complications.

COMPLICATIONS OF PREECLAMPSIA:-

- Immediate – Maternal, Fetal

- Remote

IMMEDIATE:-

Maternal:- Eclampsia Accidental Haemorrhage Oliguria and anuria Visual disturbances	Preterm labour HELLP syndrome Coagulation failure Postpartum haemorrhage Sepsis

FETAL:-Intrauterine death, Fetal growth restriction,Asphyxia,Prematurity

REMOTE:-

Residual hypertension -50%,Recurrent preeclampsia – 30%,Chronic renal disease.

MANAGEMENT:-Objectives are

Treatment for hypertension

Prevention of complications

Identification and treatment of complications

Delivery of healthy baby with minimum maternal morbidity

AIMS AND OBJECTIVES:

To find out the maternal and perinatal outcomes in the pregnancies complicated by preeclampsia and eclampsia.

MATERIALS AND METHODS:
STUDY DESIGN: Retrospective study

STUDY PERIOD: July 2014 – June 2015.

SAMPLE POPULATION: Retrospective analysis were done among 8108 deliveries during the study period at Government Kasturba Gandhi hospital,Chennai.

INCLUSION CRITERIA: Pregnancies complicated by preeclampsia,eclampsia.

EXCLUSION CRITERIA: Multiple pregnancies,congenitally malformed fetus, pregnancies associated with medical disorders like diabetes,cardiac diseases,SLE,chronic renal diseases.

Maternal age,parity,gestational age at delivery,,mode of delivery,birth weight,maternal and neonatal complications were analysed in this study.

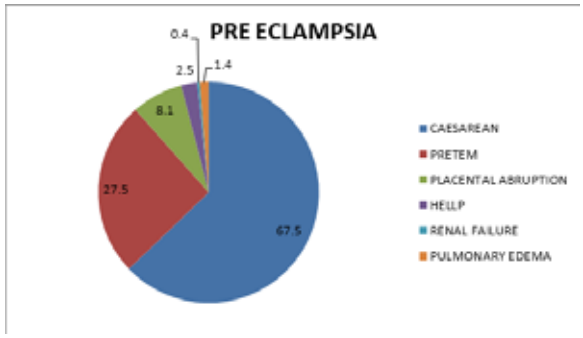
RESULTS AND ANALYSIS:
MATERNAL OUTCOMES

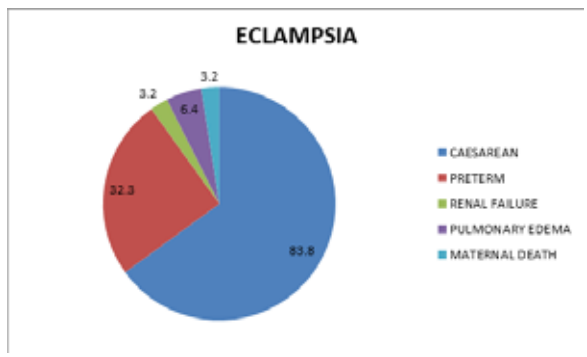
	PREECLAMPSIA		ECLAMPSIA	
	No. Of cases	%	No. Of cases	%
Maternal age				
18-20	88	18.3	8	25
21-30	286	59.5	18	58
31-35	106	22	5	16.1
Parity				
Primi	196	40.8	6	19.3
Multi	284	59.1	25	80.6
Gestational age				
<34 wks	102	21.2	10	32.2
>34 wks	378	78.75	21	67.7
Mode of delivery				
Labour natural	140	29.1	5	16.1
Instrumental	16	3.3	-	
C. Section	324	67.5	26	83.8
Maternal complications				
HELLP	12	2.5	-	
Renal failure	2	0.4	1	3.2
Death	1	0.2	1	3.2
Placental abrupt ion	39	8.1	-	
Pulmonary Edema	7	1.4	1	6.4

PERINATAL OUTCOMES

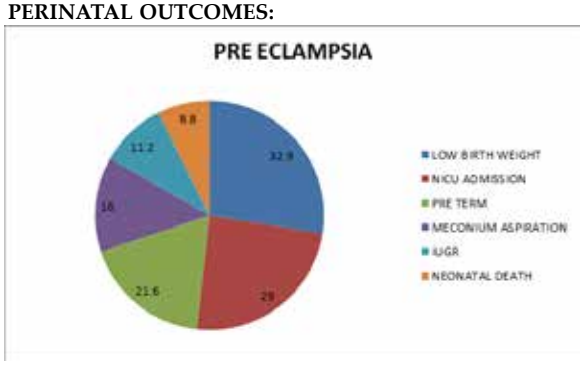
	PREECLAMPSIA		ECLAMPSIA	
	No. Of cases	%	No. Of cases	%
Alive	472	98.3	29	93.5
Still born	5	1.05	2	6.4
IUD	3	0.6	-	
Birth wt				
<2.5 kg	158	32.9	15	48.3
>2.5 kg	322	67	16	51.6
Perinatal morbidity				
Meconium aspiration	726	16	10	34
IUGR	53	11.2	6	20
Preterm	102	21.6	10	29
Neonatal deaths	42	8.8	4	13
NICU Admissions	141	29	16	55

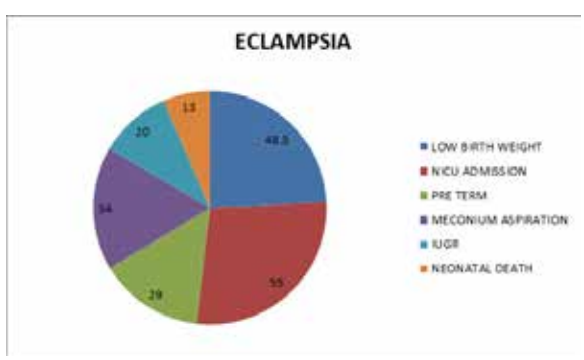
MATERNAL OUTCOMES:





PERINATAL OUTCOMES:





DISCUSSION:
In this study,incidence of preeclampsia and eclampsia was 5.9% and 0.38% respectively.Among the preeclampsia cases,severe preeclampsia was occurred in 28% of cases. 3.7%, 3.3% of preeclampsia cases was reported by Ventura et al[1] in the United States, Zareian et al[2] in Iran respectively.E.Abalos et al[3] incidence of preeclampsia and eclampsia was 2.16%.0.28% respectively.

59.5% of preeclampsia and 58% of eclampsia cases were occurred in the age group of 21-30 years.Majority of the cases were occurred in multi para(59.1% of preeclampsia and 80.6%of eclampsia) .E.Abalos et al[3-5],81% of cases were occurred in the

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age group of 21-35 years and majority of the cases were occurred in primipara.

78.75% of preeclampsia cases were delivered after 34 weeks of gestation.In eclampsia it was 67.7%.There was increased caesarean rate of about 67.5% and 83.8% in preeclampsia and eclampsia respectively.Al Mulhim et al[6],Witlin et al[7] also showed the increased caesarean rate.

In preeclampsia,HELLP syndrome occurred in 2.5% of cases,renal failure occurred in 0.4% of cases ,abruption occurred in 8.1% of cases,pulmonary edema occurred in 1.4% of cases.maternal death occurred in 0.2% of cases.

In this study,cause of maternal death in one case is severe preeclampsia with hellp syndrome and in another case is intrapartum eclampsia with acute kidney injury with acute pulmonary edema.

In eclampsia, pulmonary edema occurred in 6.4%,renal failure in 3.2%,maternal death in 3.2% of cases.

Weinstein et al[8] has reported 3.5% of maternal death among the patients complicated by severe preeclampsia ,eclampsia and hellp syndrome. E.Abalos et al[3] had reported near miss cases were more frequent among preeclampsia and 60 times more frequent among eclampsia cases.

Neonatal death,still birth,iud occurred in 8.8%,1.05%,0.6% respectively in preeclampsia deliveries.Neonatal death - 13%,still birth - 6.4% in eclampsia deliveries. . Tuffnell DJ et al [9] had reported 4.7% of neonatal death.Main reason for perinatal mortality was prematurity.

Sibai & Bartonalso reported that severepreeclampsia is associated with high perinatal mortality and morbidity.

Lowbirth weight occurred in 32.9% of preeclampsia deliveries and 48.3% of eclampsia deliveries .Nicu admission occurred in 29% of preeclampsia and 55% of eclampsia deliveries.

Hiett et al[11] found that the mean birth weight of preeclamptic neonates was significantly lower than that of controls. . Fatemeh T et al[12] had reported NICU admission and duration of stay was higher in the preeclampsia.

Preterm-21.6% and iugr – 11.2% of deliveries in preeclampsia. Preterm-29% and iugr- 20% of deliveries in eclampsia.

Thus in this study there is an increased incidence of caesarean deliveries,preterm deliveries,maternal and perinatal complications.

CONCLUSION:

Hypertensive disorders of pregnancy is responsible for significant maternal & perinatal morbidity and mortality. Proper antenatal care,health education regarding imminent symptoms,importance of blood pressure monitoring,early diagnosis of the cases,timely intervention to prevent the complications must be needed to prevent those morbidities and mortalities due to these disorders.

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