

Study of pregnancy induced hypertension and its association with neonatal outcome

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Abstract

Abstract: Pregnancy induced hypertension is common medical problem in pregnancy. It is second commonest cause of maternal mortality. It Has profound effect on fetus and neonate. It is commonest cause of perinatal morbidity and mortality. The aim of this study was to determine the different types of pregnancy induced hypertensions, different maternal factors associated with pregnancy induced hypertension, and its association with neonatal morbidity and mortality. This was a prospective study, conducted in Dept of Pediatric YCR Hospital, Latur. Sixty four mothers with PIH and their babies were included in the study. Data were analyzed using Statistical Package for Social Sciences (SPSS); Chi square test was used to determine the association between diagnosis and other variables. Mother with chronic hypertension and other diseases are excluded from study. The prevalence of pregnancy induced hypertension is 10%, 40% were premature delivery, the rate of small for gestational age was 50% which is higher in pre eclampsia and eclampsia. There was significant correlation between the birth weight and type of hypertensive disorder in pregnancy ($P=0.01$). 40% babies had birth asphyxia and required resuscitation. neonatal death are 8%. In conclusion pregnancy induced hypertension remains an important cause of neonatal morbidity and mortality.


Keywords: Hypertension; eclampsia; preeclampsia; mother; neonate.

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Received Date: 17/03/2016 Revised Date: 15/04/2016 Accepted Date: 03/05/2016

Access this article online	
Quick Response Code:	Website: www.medpulse.in
	DOI: 05 May 2016

INTRODUCTION

Gestational hypertension or pregnancy-induced hypertension (PIH) is the development of new hypertension in a pregnant woman after 20 weeks gestation without the presence of protein in the urine or other signs of preeclampsia.¹ Hypertension is defined as having a blood pressure greater than 140/90 mm Hg.⁹ There exist several hypertensive states of pregnancy¹¹ like Gestational hypertension-Gestational hypertension is usually defined as having a blood pressure higher than 140/90 measured on two separate occasions, more than 6 hours apart, without the presence of protein in the urine

and diagnosed after 20 weeks of gestation.² Preeclampsia is gestational hypertension plus proteinuria (>300 mg of protein in a 24-hour urine sample). Severe preeclampsia involves a blood pressure greater than 160/110, with additional medical signs and symptoms. HELLP syndrome is a type of preeclampsia. It is a combination of three medical conditions: hemolytic anemia, elevated liver enzymes and low platelet count.⁴ Eclampsia This is when tonic-clonic seizures appear in a pregnant woman with high blood pressure and proteinuria.² – Etiology is not known but, The underlying cause of gestational hypertension in humans is commonly believed to be an improperly implanted placenta. Certain high risk factors are as follow Obesity, Age 35 years or more at 1st time of pregnancy, Family history positive,⁸ Past history of diabetes, Hypertension and Renal diseases, Adolescent pregnancy.⁶

MATERIAL AND METHODS

This is prospective cross sectional study. It was conducted in the Dept of Paediatrics and neonatology at YCR hospital in MIMSR medical college Latur, during the period January 2011 to December 2011. All women's with pregnancy induced hypertension admitted to the

department of obstetrics and gynaecology during that period and their newborns (0-28 days)¹ during the study period were included in the study. Mothers with chronic hypertension and other medical problems other than pregnancy induced hypertension are excluded from study. The sample was divided into three groups like gestational hypertension, pre eclampsia, eclampsia. For the purpose of data analysis, information was extracted from the patients and records entered into the personal computer database. Information included in aspects of prenatal care, in the form of ANC visits, age, gravida, amount of hemoglobin, delivery data, fetal outcome and post partum course. Data entries were then accumulated and organized in tabular form on a spreadsheet database. Sixty four babies were included in the study. Data were analyzed using Statistical Package for Social Sciences (SPSS) version 17; to determine the degree of association between diagnosis and other variables Chi square test was used. P value was set on an alpha level at 0.05 and 95% confidence limit. Ethical clearance and approval was done, consent obtained from the parents of the babies participating in this study after full explanation of the study.

Table 1: Maternal profile during antenatal period

Estational hypertension	41	65%
Pre Eclampsia	16	25%
Eclampsia	6	10%
Taprimigravida	32	50%
Multipara	25	40%
Regular antenatal visits	38	60%
Irregular antenatal visits	25	40%
Hemoglobin level in blood below	51	80%

Table 2: Classification of pregnancy induced hypertension Gble3 Neonatal outcome in PIH

Born by LSCS	38	60%
Premature delivery	25	40%
IUGR	32	50%
Neonatal death	5	8%
Neonatal Resuscitation Required	19	30%

Table 4: Investigations of neonate during hospital stay

Sr bilirubin above 12 needs phototherapy	51	80%
WBC count less than 4000	19	30%
Platelet count less than 1.5 lackh	32	50%
Blood culture, Positive	20	33%
Blood culture, Negative(clinical sepsis)	19	30
NEC	25	40
Respiratory failure on Vent.	6	10
Apnea of prematurity	16	25%

RESULTS

Pregnancy induced hypertension is common medical problem in pregnancy. It is commonest cause of maternal and fetal morbidity.³ It is common in mother with anemia.

The incidence of caeserian section is around 60% as compare to 10% in normal mother. Rate of premature birth is almost 40% as compare to 10% in normal mother. Most of mother delivers IUGR babies as 50% as compare to 22% in normal mother³. Intrauterine death are 8% as compare to 2% in normal mother. About 30% baby developed birth asphyxia and required neonatal resuscitation as compare to only 20% required resuscitation. so pregnancy induced hypertension is common problem and having profound effect on mother and and fetus. PIH is slightly higher in multipara than primigravida. Almost 50% baby develops thrombocytopenia.¹⁴ Nearly 80% baby developed hyperbilirubinemia and require phototherapy.¹⁰ Almost 30% baby developes culture positive sepsis. Around 10% baby developes respiratory failure and required ventilator.

DISCUSSION

Hypertensive disorder of pregnancy is considered to be a major health problem in pregnancy. Not only the etiology and pathophysiology still remain to be unclear, but also effective prevention and treatment modalities are absent.. There is variation in the prevalence of hypertensive disorders of pregnancy¹¹. According to the geographical regions of the world, it ranges from 4.5% in Sweden to 8.49% in Turkey. In Brazil the prevalence is 7.5%. Saudi Arabia reported a prevalence ranging between 2.6% to 3.7%.⁸ In USA the prevalence is 3.8%, and in our study it was 10% which is more.⁸ The variation can be attributed to genetic factors, racial differences, socioeconomic status and some other demographic parameters such as parity and age. The present study showed that most of the cases who suffered pregnancy induced hypertension were primigravida.¹⁵ This finding is matching from the patient profile of the present literature, which found primaparous are the most typical cases. The Turkish study Hypertensive disorder of pregnancy is responsible for significant maternal / perinatal morbidity, LBW, and VLBW infants, compared with normal pregnancies.¹⁴ This is true in our study. The incidence of small for gestational age (SGA) amongst women with pre eclampsia in our study (50%) compares favorably to several Italian studies. This is evident that the rate of fetus growth restriction in our study is similar to studies from Italy; however the rate is significantly higher compared to other centres in other parts of the world. This finding might be partially explained by a higher rate of preterm delivery in our sample. Our study demonstrated a very low perinatal mortality.¹³ Incidence of eclampsia and pre eclampsia are more in anemic mother which is matching with study.⁷ The incidence of thrombocytopenia is 50 % which is matching with other study.¹⁶ About 30% baby developes neutropenia.¹⁸

CONCLUSION

PIH Is Still Common Medical Problem in Pregnancy. Incidence of Pre Eclampsia and eclampsia are more in mother having anemia. Incidence of caesarean section in PIH mother is almost twice than normal mothers. Incidence of Premature Delivery are more in PIH, but not much diff in in preeclampsia and eclampsia. Incidence of LBW Is Almost 50%¹⁰ In PIH, and More Common In eclampsia and pre eclampsia.¹² prevention and early treatment of anemia is one of measure to prevent eclampsia and pre eclampsia.

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Source of Support: None Declared
Conflict of Interest: None Declared