

PREGNANCY OUTCOME IN PRIMIGRAVIDA COMPLICATED WITH PREGNANCY INDUCED HYPERTENSION

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ABSTRACT

Objective: To evaluate pregnancy outcomes in primigravida women complicated with pregnancy induced hypertension.

Material and Methods: This descriptive-analytic study was performed on 80 hypertensive primigravida women who were referred to Obs / Gynae Unit-C of Hayatabad Medical Complex, Peshawar from January 2012 to December 2012. They were compared for maternal and perinatal outcomes. The data was analyzed by SPSS software. $P < 0.05$ was considered statistically significant.

Results: In this study, all women irrespective of their age and delivery mode were included in the study that had presented with their first pregnancy and were hypertensive. Gestational age was significantly lower in these women, especially in those with severe preeclampsia. Serum creatinine level more than 1.2 mg/dl was significantly higher in mild and severe preeclampsia groups. Significant differences were found in neonatal APGAR score, need of resuscitation, NICU admission, birth weight and length, LBW and intrauterine growth retardation between the studied groups.

Conclusion: Maternal and fetal-neonatal complications mostly appear in pregnancy complicated with pregnancy induced hypertension especially in severe preeclampsia.

INTRODUCTION

Pregnancy induced hypertension is one of the common conditions with unknown etiology that is responsible for most of maternal and perinatal morbidity and mortality.¹ Preeclampsia is characterized by new onset hypertension and proteinuria usually after 20th week of gestation, but the condition may also be associated with abnormalities of the coagulation system, disturbed liver function, renal failure, and cerebral ischaemia.² Hypertensive disorders can be classified into five groups which are preeclampsia, eclampsia, transient hypertension of pregnancy, chronic hypertension, and preeclampsia superimposed on chronic hypertension.²

Preeclampsia can be classified as mild or severe; cut-offs used to define "severe" are blood pressure (BP) of 160/110 mmHg or higher in the American literature and 170/110 mmHg or higher in the European literature.³ Hypertensive disorders occur in about 12-22% of pregnancies depending on the population and the diagnostic criteria used that are more prevalent in nulliparous women (25% of nulliparous women are complicated by hypertensive disorders).⁴ These disorders remain the main cause of both maternal and perinatal morbidity and mortality throughout the world.⁵ Approximately, 30% of hypertensive disorders

of pregnancy are caused by chronic hypertension and 70% of cases are diagnosed as gestational hypertension/preeclampsia.⁶ Moreover, preeclampsia produces potentially lethal complications including placental abruption disseminated intravascular coagulation, intracranial hemorrhage, hepatic failure, acute renal failure, and cardiovascular collapse. Intrauterine fetal growth restriction (IUGR), intrauterine fetal demise and prematurity are the other related obstetric problems.⁷

The neonates of women with hypertension during pregnancy experience higher rates of prematurity and low birth weight compared to healthy maternal controls. Expectant management with temporizing treatment should be performed to lengthen gestation, which may be associated with enhanced perinatal survival. Maternal and fetal surveillance is conducted at regular intervals and delivery is indicated for worsening maternal and fetal conditions.⁸ Neonatal care is required for such babies, which is associated with emotional and financial stress and long-term infant developmental consequences.⁹ Studies have found that maternal and fetal mortality are significantly higher in hypertensive nulliparous women.¹⁰

MATERIAL AND METHODS

This is a descriptive-analytic study carried out from January 2012 to December 2012, in which 80 primigravida women who were referred to Obs / Gynae Unit-C of Hayatabad Medical Complex, Peshawar were evaluated for maternal and perinatal outcome. The 80 hypertensive primigravida women were divided into three groups: 30 hypertension, 22 mild and 28 severe preeclampsia. All cases in the study were primigravida women

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with pregnancy hypertension (blood pressure > 140 mmHg systolic or > 90 mmHg diastolic measured on at least two occasions) and proteinuria 300 mg/24h with gestational age of > 34 weeks who did not have any history of cardiovascular disorders, renal failure, diabetes, and other problems that may threaten mother or fetus. Gestational age was defined by last menstrual period confirmed by first trimester ultrasound. A questionnaire was completed for each woman including: mother's age, obstetric history, parity, gravidity, weight and cause of the hypertension, superimposed preeclampsia, by new onset proteinuria of 300 mg or greater in a 24-hours specimen, abruptio placentae, or an increase in blood pressure in a woman whose hypertension had previously been well controlled, and delivery mode; data relating to the neonate – weight and Apgar score. Data were processed with SPSS software (version 11). Frequency tables, mean and standard deviation were used for describing data.

RESULTS

In this descriptive-analytic study including 80 women, most of the patients (28%) were complicated by severe preeclampsia (blood pressure >160/110 and 24-h urine protein >300mg), 22% of patients were in mild preeclampsia group (blood pressure <160/110 and 24-h urine protein >300mg and 30% were in hypertension group (blood pressure >140/90 without proteinuria), respectively. The mean maternal age was 22.4±4.62 years. The mean gestational age was 37.37±2.25 weeks. The mean birth weight was 2483±653.22gm and the mean birth length was 47.31 3.90.

In view of perinatal outcome, the rate of Low Birth Weight (LBW) (68.4%), Intra uterine growth retardation (IUGR) (27.5%), need to Neonatal Intensive Care Unit (NICU) (17.6%), need for resuscitation (21.6%), and neonatal APGAR (23.5%) were higher in the severe preeclampsia group as compared to the other two groups.

On the contrary in the maternal outcomes the groups were not significantly different on account of Cesarean rate and placental detachment (Table 1). Headache was the main complaint of the women in the study group (46%), followed by epigastric pain (27%) and visual defects (26%). (Table 2)

Table 1: Maternal Outcome (percentage)

S. No.	Features	Hypertension	Mild preeclampsia	Severe eclampsia
1.	Caesarean section	39.4	42.1	47.1
2.	Placental detachment	15.2	5.3	5.9

Table 2: Chief Complaints recorded

S. No.	Complaint	Percentage
1.	Headache	46
2.	Vision defect	26
3.	Epigastric pain	27
4.	Oliguria	5.1
5.	Creatinine level >1.2	16
6.	Creatinine level <1.2	84
7.	Platelet level < 100000	13.4
8.	Platelet level > 100000	86.7
9.	Seizures	5

DISCUSSION

Hypertensive disorder of pregnancy is considered to be a major worldwide health problem causing an increased risk of perinatal and maternal morbidity and mortality.¹¹ A number of different complex mechanisms involving the lipid and protein oxidation, altered nitric oxide production and adhesion molecules and placental glycoproteins playing a role in trophoblastic-endothelial dysfunction may be suggested as the etiopathogenesis of preeclampsia.¹² The prevalence of hypertensive disorder of pregnancy is different according to geographic regions of the world and ranges from 1.5% to 7.5%.¹³ The differences can be due to racial reasons, socioeconomic status and some other demographic parameters such as age and parity. Moreover, some centers serve as a referral medical facility for an extended number of primary care units of the surrounding rural areas.¹⁴ In the present study, gestational age in severe preeclampsia group was significantly lower than control group, mild preeclampsia and hypertension group. Hypertensive disorder of pregnancy is responsible for significant maternal/perinatal morbidity and mortality. Maternal death associated with preeclampsia/eclampsia assumed more importance since previously frequent etiologies such as infection and hemorrhage became less common.¹⁵ A study performed in 2005 reported that IUGR, low APGAR score and fetal deaths during labor were significantly more frequent in severe preeclampsia women when compared to other groups.¹⁶ Different mortality rates were presented in literature varying in the range of 47-370/1000.¹⁷ The results of the present study showed no significant difference between the studied groups in view of the menstrual condition. Operative delivery is reported to be increased in hypertensive disorder of pregnancy.¹⁸ Vaginal delivery is recommended for the severe preeclamptic women in the absence of obstetric indication for caesarean section. Elective abdominal delivery may be preferred in cases before 32 weeks with IUGR and oligo-hydramnios.¹⁹ Coppage et al colleagues concluded that immediate abdominal delivery did not improve maternal and perinatal outcome in severe

preeclampsia and induction of vaginal delivery did not lead to increased morbidity and mortality.²⁰ Caesarean rate was not significantly different between the groups in this study, but increased rate of caesarean is reported in some studies. Lydakis et al in 2001 demonstrated that LBW (low birth weight) is associated with preeclampsia.²¹ Their finding is in accordance with the results of the present study. The cause of low birth weight can be prematurity or intrauterine growth restriction. In the present study, 27.5% of the neonates in severe preeclampsia group had been complicated by intrauterine growth restriction.

CONCLUSION

Early detection of high-risk individuals and mild cases by well-trained personnel, timely referral to advanced tertiary centers, early and timely treatment of preeclampsia cases and correct training of the mothers about fertility age and the importance of care during pregnancy may lead to improved perinatal and maternal outcomes.

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