



A STUDY ON PREGNANCY INDUCED HYPERTENSION AND FOETAL OUTCOME AMONG PATIENTS WITH PIH AT TERTIARY CARE HOSPITAL

Obstetrics & Gynaecology

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ABSTRACT

Introduction: Hypertensive disorders are common complication occurring during pregnancy are responsible for maternal and foetal morbidity and mortality. Though the conditions are on decline, still stands public health problem. **Aims and objectives:** To know the clinical presentation among PIH patients and to find out foetal outcome among patients with PIH. **Methods:** A cross section study was conducted over a period of one year in the department of Obstetrics and Gynaecology of tertiary care hospital facility at SKMCH, Muzaffarpur. A total of 82 pregnant women with PIH were enrolled in this study with inclusion and exclusion criteria. **Results :** Majority of PIH mothers belong to age group of 18-26 years (51.56%). PIH is more prevalent among nulliparous (57.81%). 53.12% PIH mothers delivered low birth weight babies, 7.81% are IUGR, 18.75% of babies were required NICU admissions. **Conclusion:** we noted that PIH is more prevalent in younger age group and nulliparous mothers. PIH lead to various clinical manifestations, some of these may be used as early recognition of PIH. PIH also leads to adverse foetal outcome.

KEYWORDS

Pregnancy induce hypertension, Blood pressure, Foetal out come

INTRODUCTION

Pregnancy induced hypertension is a pregnancy specific multisystem disorder characterised by development of oedema, hypertension and proteinuria after 20 weeks of gestation. It is known as Toxaemia or hypertensive disorder of pregnancy are important leading causes of maternal, foetal and neonatal morbidity and mortality worldwide. Gestational hypertension is also known as PIH is defined as new hypertension in a pregnant women after 20 weeks of gestation without the presence of protein in urine or other signs of Pre-eclampsia and blood pressure of 140mmHg systolic or diastolic pressure of 90mmHg measured 2 times with at least 6 hours interval. Although PIH more commonly occur during first pregnancy, it can also occur in subsequent pregnancies. There are various risk factors which are elderly primipara, family history of hypertension having diabetes, pre-existing hypertension, previous episodes of PIH etc. Pregnancies complicated with hypertension disorders are associated with increased risk of adverse, foetal, neonatal and maternal outcome including preterm birth, IUGR, perinatal death [1], APH, PPH, maternal death. Most deaths in PIH occur due to its complications and not due to hypertension per se. We can reduce the maternal mortality by prevention and proper management of these complications. They along with hemorrhage and infection, contribute greatly to maternal morbidity and mortality.[2] PIH is a pregnancy specific, multisystem disorder characterized by development of oedema, hypertension and proteinuria after 20 weeks of gestation. 3 World Health Organization estimates that at least one woman dies every seven minutes from complications of hypertensive disorders of pregnancy.[4] Pregnancies complicated with hypertensive disorders are associated with increased risk of adverse fetal, neonatal and maternal outcome including preterm birth, intrauterine growth retardation (IUGR), perinatal death, ante partum haemorrhage, postpartum haemorrhage and maternal death.[5,6] Most deaths in PIH occur due to its complications & not due to hypertension per se. With the advent of antenatal care in large cities, severe degree of toxemia and eclampsia has become mostly preventable. However, in developing country, it still continues to be a major obstetric problem.[7] Thus, we can reduce the maternal mortality by prevention and proper management of these complications.

Hence, the present study was conducted to find out common clinical presentation and foetal outcome among PIH patients. So we can make early diagnosis and thereby morbidity and mortality can be reducing among PIH patients.

MATERIAL AND METHODS

A cross-section study was carried out for period of one year in the Department of Obstetrics and Gynaecology at SKMCH, Muzaffarpur, Bihar. A total 64 pregnant women who presented to our Hospital with

PIH during study period from February 2019 to January 2020 were enrolled for the study.

Inclusion criteria

Women with > 20 weeks gestation and those were willing to participate in this study.

Exclusion criteria

Those pregnant women having chronic hypertension and those who are not willing to participate in the study. Verbal informed consent of each pregnant women was taken for participation in this study. Necessary informations such as socio-demographic information, detailed clinical and obstetric history, clinical examination, investigations and foetal outcome were noted in pre-formed proforma.

In present study Hypertension in Pregnancy is defined as blood pressure $\geq 140/90$ mmHg. When hypertension in pregnancy is accompanied by proteinuria, it is known as Pre-eclampsia. The diagnosis of pre-eclampsia in the absence of proteinuria is highly suggestive when hypertension is accompanied by headache, blurring of vision, abdominal pain or certain laboratory abnormalities particularly low platelet count and elevated liver enzymes either alone or in combinations.

In our study we classified women into mild and severe hypertensive disorder of pregnancy, according to clinical classification 7 PIH classified into Mild PIH (BP 140/90 to 159/109 mmHg) and severe PIH (BP 160/110 mmHg or higher).

RESULTS

A total of 82 pregnant women with PIH were participated in these study and we noted the following observations in our study. Table 1 shows that more than half of the women ($\approx 63\%$) belong to rural areas, who attended antenatal clinic. Table 2 shows that more than half of the women (64.63%) belong to the age group of 18-27 years while others ($\approx 35\%$) from the age group of 28-36 years. Table 3 shows that Epigastric Pain is the most common problem among pregnant women (more than half the women $\approx 54\%$ having the problem of Epigastric Pain), while Headache is secondary cause among pregnant women who attended antenatal clinic.

on the basis of systolic blood pressure, $>1/4$ th population are diagnosed with prehypertension whereas on the basis of diastolic blood pressure, 25.97% of the study population are diagnosed with stage of prehypertension remaining are come under the normal category. 36.59% women are unaware about the cause of high BP whereas 31.71% women says that lack of exercise is measure cause of high BP. According to 62.20% women are agreed with that they are

taking low salt diet while others are taking normal as well as high salt diet. Study shows that more than half of the women are doing regular exercise. It shows that there is a vast gap between self-care knowledge and preventive practices among pregnant women. Less than 50% women are doing exercise during pregnancy while they all know that lack of exercise is a cause of high BP. Only 61.54% women are taking low salt diet among all women who agreed that high salt diet is major cause of high BP, while others are not doing any exercise.

Table 1: Residence-wise distribution study population

Residence	Frequency	Percentage	95% confidence interval limits
Rural	52	63.41	52.05-73.78
Urban	30	36.59	26.22-47.95
Total	82	100.00	—

Table 3: Problems related to pregnancy among study population

Problems related to pregnancy	Frequency	Percentage	95% confidence interval limits
Epigastric pain	45	54.88	43.49-65.90
Headache	16	19.51	11.58-29.74
Pedal edema	14	17.07	09.66-26.98
Nothing	07	08.54	02.76-22.86
Total	82	100.00	—

Table 4: Problem of eclampsia among study population

Problem of eclampsia	Frequency	Percentage	95% confidence interval limits
No	70	85.37	77.00-93.02
Yes	12	14.63	06.98-23.00
Total	82	100.00	—

Table 5: Stage of hypertension among study population

Stage of hypertension	Frequency		Percentage		95% confidence interval limits	
	SBP	DBP	SBP	DBP	SBP	DBP
Normal	59	57	71.95	74.03	60.94-81.32	62.77-83.36
Prehypertension	23	20	28.05	25.97	18.68-39.06	16.64-37.23
Total	82	82	100.00	100.00	—	—

SBP = Systolic blood pressure, DBP = Diastolic blood pressure

DISCUSSION

In our study majority of patients participated in study were Hindu (96.87%) and residing in Rural area (82.81%). The high prevalence of PIH was noted among 18-22 years of age group (51.56%) followed by 23-27 years of age group (28.12%) and 28-32 years of age group (17.18%). A study conducted by Parmar et al at NHL municipal college, Ahmadabad, Gujarat noted that PIH is more prevalent among pregnant mother aged less than 20 years of age (53.0%) and 21-30 years (47.0%).⁹ Gandhi et al in their study found that 48.42% of PIH mother was 21-25 years of age group, followed by greater than 30 years of age (25.26%), 14.73% in 26-30 years of age group and 11.57% in less than 20 years of age.¹⁰ Similarly Bangal et al in their study found majority of PIH mother were in age group of 15-20 years (52.63%) followed by 21-25 years (31.59%), 26-30 years of age (10.52%) and above 30 years (5.26%).¹¹ Khosravi et al also noted that 55.6% PIH mother was 21-30 years of age followed by more than 30 years of age (32.2%) and less than 20 years of age (12.2%).¹² In our study pregnancy induced hypertension was more prevalent among nulliparous (57.81%) as compared to multiparous (42.18%). Similar finding was reported by Parmar et al in their study conducted at NHL Municipal College, Ahmadabad 55% in Primipara as compared to Multipara (45.0%).⁹ In contrast to this different study conducted by Gandhi et al and Khosravi et al 43.15% among primiparous 56.85% multiparous and 32.8% PIH mother are nullipara while 67.2% were multipara respectively.^{10,12} In our study among PIH mother we found that 48.44% had lower abdominal pain, 18.75% had vomiting/epigastric discomfort followed by headache (12.50%), convulsion (10.94%), no any complain (10.94%), oedema feet (9.37%), dizziness (7.81%). Almost similar finding was reported in study conducted by Gandhi et al at Dharpur-Patan showed that 48.4% had labour pain,

11.6% had convulsion, 10.5% had no any complain, 9.5% had oedema feet and 6.3% headache and bleeding per vagina (6.3%).¹⁰ In present study among PIH patients 85.93% and 98.43% of had mild PIH with systolic B.P. 140-160 mmHg and diastolic B.P. 90-110 mmHg respectively. While 15.51% had severe PIH with systolic B.P. more than 160 mmHg. Khosravi et al in their study showed 96.3% of PIH mother had 140-190mmHg SBP and 61.1% had 90-110 mmHg of DPB. While 3.7% of mother had SBP more than 190 mmHg and 38.9% had more than 110 mmHg of DPB. In our study among PIH mother 79.69% received only antihypertensive medication while 10.94% of patients received both antihypertensive and anticonvulsant medication and 9.37% does not received any medication during present pregnancy. Monica Muti et al in their study showed that 66.07% of PIH women were received Antihypertensive drug like methyldopa, nifedipine while 33.93% of PIH women does not received any medication and only do the bed rest.¹³ In study conducted at Bharati Hospital, Pune showed that Overall 34 (32.69%) patients were treated with a single antihypertensive drug, and 70 (67.31%) patients were treated with antihypertensive drug combinations.^[11] Hypertension is the most common medical problem encountered in pregnancy and remains an important cause of maternal and fetal morbidity and mortality.^[10] It complicates almost 10% of all pregnancies.¹⁶ Pregnancies complicated by hypertension are associated with increased risk of adverse fetal, neonatal and maternal outcomes, including preterm birth, intrauterine growth restriction (IUGR), perinatal death, acute renal or hepatic failure, antepartum haemorrhage, postpartum haemorrhage and maternal death.¹⁷ Hypertensive disorders of pregnancy are one of the major causes of maternal morbidity and mortality leading to 10–15% of maternal deaths, especially in developing world.¹⁸ It may complicate about 3–10% of all pregnancies with variable incidence among different hospitals and countries.¹⁹ In present study 54.69% mother had preterm delivery, 4.69% had post term delivery. 53.12% of babies are Low Birth weight, 07.81% are IUGR. Out of 64 delivery 18.75% of babies were required NICU admission for various causes with 1.56% were IUFD and 1.56% of neonatal death. Seyom et al in their study on maternal and foetal outcome of pregnancy related hypertension in Karl Referral Hospital, Ethiopia showed that stillbirth rate of 10.2%, low birth weight of 30.5%, abortion 10.7% and preterm delivery 31.4%. Jiji showed that 40.0% of new born were low birth weight and 38.0% of babies were IUGR.²¹ Bangal In their study at a rural tertiary level health care referral centre in Loni, Maharashtra out of 100 PIH women 19.0% have IUGR, 17.0% IUFD, 5.0% neonatal death.¹¹ Ahmed In their study at Grant medical college and Sir J. J. Group of hospitals, Mumbai showed that out of 250 delivery among PIH mother 72 (28.8%) of newborn had birth weight less than 2 kg and 69 (27.61%) on new born required NICU admission.^[12]

CONCLUSIONS

Pregnancy-induced hypertension is a common medical disorder seen associated with pregnancy, and it leads more complication when it unregistered. Maternal and fetal morbidity and mortality can be reduced by early recognition and institutional management.

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