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Original Research Article

A study on pregnancy induced hypertension and foetal outcome among patient with PIH at tertiary care hospital, Valsad

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ABSTRACT

Background: Hypertensive disorders are common complication occurring during pregnancy responsible for maternal and fetal mortality and morbidity. Though the condition is on decline, still stands a public health problem. The aims and objectives of the study were to know the clinical presentation among PIH patients and to find out foetal outcome among patients with PIH.
Methods: A cross-sectional study was conducted over period of 1 year in the department of Obstetrics and Gynecology, tertiary care health facility at GMERS Medical College and Hospital, Valsad. A total of 64 pregnant women with PIH were enrolled in this study with inclusion-exclusion criteria. Necessary information such as Socio-demographic information, detailed clinic and obstetric history, clinical examination, investigations and foetal outcome was note by using preformed performa. Data were entered and analyzed by using MS Excel and Epi Info software.
Results: Majority of PIH mother is belonging to age group of 18-26 years (51.56%), PIH is more prevalent among nulliparous (57.81%). Among PIH mother 48.44% had lower abdominal pain, 18.75% had vomiting/epigastric discomfort followed by headache (12.50%), convulsion (10.94%) etc. 53.12% of PIH mother delivered low birth weight babies, 7.81% are IUGR. 18.75% of babies were required NICU admission with 1.56% of neonatal death.
Conclusions: Pregnancy induced hypertension is a common medical disorder associated with pregnancy. We noted that PIH is more prevalent in younger age groups and nulliparous mothers. PIH lead to a various clinical manifestation some of this may use as early recognition of PIH. PIH also lead to increase adverse foetal outcome. Thus fetal morbidity and mortality can be reduced among PIH patients by early recognition and institutional management.

Keywords: Pregnancy induce hypertension, Blood pressure, Foetal out come

INTRODUCTION

Pregnancy induced hypertension is known as toxemia or preeclampsia a form of high blood pressure in pregnancy. PIH is the second most common medical disorder seen during pregnancy.Hypertensive disorders of pregnancy affect 6-8% of all pregnancies, with wide variation as per different geographical areas.[1] Although the cause of PIH is unknown certain factors are known to increase the risk of PIH such as risk factor includes that young women with first pregnancy, pregnant women younger than 20 years and older than 40 years of age, having diabetes, pre-existing hypertension, previous episode of PIH etc.

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 toxaemia 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.

METHODS

A cross-sectional study was carried out for period of 1 year in the Department of Obstetrics and Gynaecology at GMERS Medical College and Hospital, Valsad, Gujarat, India. A total 64 pregnant women who presented to our Hospital with pregnancy induced hypertension during the study period from January-2017 to June-2017 were enrolled for the study with following inclusion and exclusion criteria.

Inclusion criteria

Women with 20 weeks of gestation and those who willing to participate in this study.

Exclusion criteria

Those pregnant mother having chronic hypertension and those who not willing to participate in this study.

Verbal informed consent of each pregnant woman was taken for participation in this study. A necessary information such as socio-demographic informations, detail clinical and obstetric history, clinical examination, investigations and foetal outcome was noted in preformed Performa. Data was entered in MS excel and analyzed by using Epi Info. Appropriate statistical test were applied.

In present study Hypertension in pregnancy is defined as blood pressure ≥140/90 mm Hg. When hypertension in pregnancy accompanied by proteinuria (urinary excretion of 300mg protein in a 24 hour specimen/1+/> using random urine dipstick evaluation) it is known as pre-eclampsia. The diagnosis of preeclampsia in absence of proteinuria highly suggestive when hypertension is accompanied by headache, blurring of vision, abdominal pain or certain laboratory abnormalities particularly low platelet count and elevated liver enzyme either alone or in combination. Eclampsia is defined as occurrence of new onset grand mal seizure in women with preeclampsia that cannot be attributed to other causes.[5]

In our study we classify pregnant women into mild and sever hypertensive disorders of pregnancy, according to clinical classification 7 PIH classified into mild PIH (140/90 to 159/109 mmHg) and severe PIH (160/110 mmHg or higher).[8]

RESULTS

A total of 64 pregnant women with PIH were participated in these study and we noted the following observations in our study.

Table 1: Demographic profile of PIH patients.

Demographic	Number	Percentage (%)
Age group (in years)		
18-22	33	51.56
23-27	18	28.12
28-32	11	17.18
>32	2	3.12
Religion		
Hindu	62	96.87
Muslim	2	3.12
Residential status		
Urban	11	17.18
Rural	53	82.81

In our study higher percentage 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%). Majority of patients participated in study were Hindu (96.87%) and residing in Rural area (82.81%) (Table 1).

Table 2 shows that pregnancy induced hypertension was more prevalent among Nulliparous (57.81%). Out of 27 women 12 (44.44%) have past h/o of PIH, 22.22% had previous preterm delivery and 66.67% had previous LSCS. Table-2(C) showed that clinical presentation in mother with PIH and found that 48.44% had lower abdominal pain, 18.75% had vomiting/ epigastric discomfort followed by headache (12.50%), convulsion (10.94%) and no any complain (10.94%) (Table 2).

Out of 64 PIH patients 85.93% and 98.43% of had mild PIH with systolic B.P. 140-160 mmHg and diastolic B.P. 90-110mmHg respectively. While 15.51% had sever PIH with systolic B.P. more than 160 mmHg (Table 3).

Table 2: Distribution of PIH patient as per obstetric history.

Obstetric history	Numbers	Percentage (%)
Parity		
Nulliparous	37	57.81
Multipara	27	42.18
Past obstetric history of patients with PIH (n=27)		
PIH	12	44.44
Preterm	6	22.22
Previous C.S	18	66.67
Abortion	2	7.41
Clinical presentation during present pregnancy (Multiple responses).		
Pain in lower abdomen	31	48.44
Headache	08	12.50
Blurring of vision	02	3.12
Oedema feet	06	9.37
Convulsion	07	10.94
Epigastric discomfort/vomiting	12	18.75
Dizziness	05	7.81
No complain	07	10.94

Table 3: Distribution of PIH patients as per their blood pressure.

Classification of PIH patients on the basis of blood pressure	Numbers	Percentage (%)
Systolic B. P. (in mmHg)		
140-160	55	85.93
161-180	6	10.34
>181	3	5.17
Diastolic B. P. (in mmHg)		
90-100	55	85.93
101-110	8	12.50
>111	1	1.56

Table 4: Distribution of PIH patients as per medication received.

Medication	Numbers	Percentage (%)
Antihypertensive	51	79.69
Anticonvulsant	07	10.94
No medication	06	9.37

Table 5: Foetal outcome in patients with PIH (n=64).

Outcome	Numbers	Percentage (%)
Preterm	35	54.69
Post term	03	04.69
LBW (<2.5 Kg)	34	53.12
IUGR	05	07.81
NICU admission	12	18.75
IUFD	01	01.56
Neonatal death	01	01.56

Out of 64 PIH patients 79.69% received only antihypertensive medication while 10.94% of patients received both antihypertensive and anticonvulsant medication. Only 9.37% does not received any medication for PIH during present pregnancy (Table 4). Table 5 showed the out of 64 PIH mother 54.69% 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 12 (18.75%) of babies were required NICU

admission for various causes. 1.56% were IUFD and 1.56% of neonatal death.

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 el 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 at el 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 sever 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.[12]

In our study among PIH mother 79.69% received only antihypertensive medication while 10.94% of patients received both antihypertensive and anticonvelesent 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 methyledopa, 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.[14]

Hypertension is the most common medical problem encountered in pregnancy and remains an important cause of maternal and fetal morbidity and mortality.[15] 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%.[20]

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, Maharashtraout 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.[22]

CONCLUSION

Pregnancy induced hypertension is a common medical disorder associated with pregnancy. We noted that PIH is

more prevalent in younger age groups and nulliparous mothers. PIH lead to a various clinical manifestation some of this may use as early recognition of PIH. PIH also lead to increase adverse foetal outcome. Thus fetal morbidity and mortality can be reduced among PIH patients by early recognition and institutional management.

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