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Feto - Maternal Outcome in Pregnancy Induced Hypertension: A Hospital Based Retrospective Study

KEYWORDS: Pregnancy induced hypertension, maternal outcome, fetal outcome, IUGR.

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ABSTRACT *Background: Pregnancy induced hypertension (PIH) is one of the most common causes of both maternal and fetal morbidity and mortality affecting about 8 - 10 % of pregnant women. This study aims to determine the feto-maternal outcome and correlates with severity of PIH.*

Objectives: To study the maternal and fetal outcome in PIH.

Materials and Methods: A retrospective randomized study was carried out including 100 cases of PIH. The maternal and fetal outcome parameters were documented and analyzed using statistical methods.

Results: In the present study the overall incidence of PIH was 10.10%, of which 4.41% was mild PIH cases and 5.69% were severe PIH cases. Preterm labour was the commonest maternal obstetrical complication observed in 4.54% of mild PIH cases and 10.71% of severe PIH cases. Intra uterine growth retardation was the commonest fetal complication seen in 4.54% of mild PIH cases and 19.64% of severe PIH cases. Next common complication was prematurity.

Conclusion: PIH is a common medical disorder seen associated with pregnancy in the rural population especially among young primigravidas. Early detection and appropriate management of the pregnancy may improve the outcome for both mother and the fetus.

INTRODUCTION

PIH is a multisystem disorder of pregnancy characterized by hypertension and protenuria in the second half of the pregnancy1. It complicates around 5-10% of all pregnancies, may be higher in rural based setting2, 3.

PIH is a highly variable disorder unique to pregnancy and is the second most common medical complication seen during pregnancy. This along with haemorrhage and infection contribute greatly to maternal morbidity and mortality4.

PIH is a pregnancy specific, multisystem disorder characterized by development of oedema, hypertension and protenuria after 20 weeks of gestation5. PIH is unpredictable in its onset and cured only by the delivery of the baby and placenta. The most crucial step is identifying PIH by early detection of elevated blood pressure6.

The etiology of PIH is elusive and the management depends on early detection, antihypertensive treatment, seizure prophylaxis and rapid delivery in severe cases7. Most deaths in PIH occur due to its complications and not due to hypertension per se. Thus we can reduce the maternal mortality by prevention and proper management of these complications8.

Ours is a tertiary care hospital in a drought prone area and in the present study we attempted to study feto-maternal outcome in cases of PIH admitted in our hospital.

MATERIALS AND METHODS

This is a retrospective randomized study carried out at Anantapuramu General Hospital, in the Department of Obstetrics and Gynecology, Andhra Pradesh, India. A total of 100 pregnant women who were diagnosed to have PIH including both registered cases and unregistered cases were included and the feto-maternal outcome were studied.

On admission detailed history regarding age, parity, period of gestation, signs and symptoms, obstetric and family history were recorded as appropriate and detailed clinical examination was carried out along with appropriate investigations.

INCLUSION CRITERIA:

1. PIH was diagnosed if blood pressure is greater than or equal to 140/90 mm of Hg along with protenuria.

2. Gestational age greater than 20 weeks of pregnancy.

3. Severity of PIH is classified based on diastolic blood pressure. If DBP < 100 mm of Hg then mild PIH and if DBP > 100 mm of Hg as severe PIH.

RESULTS

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TABLE 1: Distribution of PIH cases according to age group

Age Group (in years)	Total NO. Of cases	Mild PIH		Severe PIH	
		No. Of Cases	Percent-age	No. Of Cases	Percent-age
15-20	04	01	2.27	03	5.36
21-25	73	32	72.72	41	73.21
26-30	18	08	18.18	10	17.86
31-35	04	02	4.54	02	3.57
> 35	01	01	2.27	00	00
Total	100	44		56	

It is evident from Table 1 that out of the total 100 women with PIH, majority of cases were less than 25 years of age (mean is 24.2 years of age), suggesting that PIH is more common in younger age group.

It is observed from Table 2 that majority of cases belonging to PIH were from rural background (78%). It is also seen that majority of women were primi gravidas (54%).

It is also evident from Table 2 that preterm labour was the commonest maternal complication affecting two out of 44 cases (4.54%) of mild PIH and 6 out of 56 cases of severe PIH (10.71%). Next common complication seen in this study is Abruptio placentae affecting one out of 44 cases of mild PIH (2.27%) and 6 out of 56 cases of severe PIH (10.71%). There were two cases of PPH cases which were seen in severe PIH cases. There was one case of HELLP syndrome and one case of renal failure which were reffered to higher centres.

IUGR was the commonest fetal complication seen. In mild PIH it was seen in 4.54% of cases and in severe PIH it was seen in 19.64% cases. Prematurity ranked second among the fetal complications which was 4.54% in mild PIH and 10.71% in severe PIH. There were four cases of Birth asphyxia which was the next common complication, out of which 3 cases belonged to severe PIH and one case belonged to mild PIH. Out of 100 case, 15 babies required NICU admissions, out of which 3 neonatal deaths occurred. There were 4 IUDs. Both neonatal deaths and IUDs were from severe PIH category only.

TABLE 2: Maternal and Perinatal outcome in PIH

Variables	No. Of cases	Mild PIH		Severe PIH	
		No. Of cases	Percent-age	No. Of cases	Percent-age
1. Registration Status					
Registered	69	38	86.36	31	55.36
Unregistered	31	06	13.64	25	44.64
2. Pt. Back ground					
Rural	78	24	54.55	54	96.43
Urban	22	20	45.45	02	3.57
3. Parity					
Primigravidas	54	20	45.45	34	60.71
Multigravidas	46	24	54.55	22	39.29
4. Mode of Delivery					
Vaginal delivery					
Spontaneous	30	20	45.45	10	17.86
Induced	10	04	09.09	06	10.71
Caesarean section					
Elective	05	05	11.36	00	00
Emergency	55	15	34.09	40	71.43
5. Maternal Complications					
Preterm labour	08	02	04.54	06	10.71
Abruptio Placentae	07	01	02.27	06	10.71
Postpartum Haemorrhage	02	00	00	02	03.57
HELLP syndrome	01	00	00	01	01.79
Renal failure	01	00	00	01	01.79
Plural effusion	00	00	00	00	00
DIC	00	00	00	00	00
6. Fetal Complications					
Prematurity	08	02	4.54	06	10.71
Birth Asphyxia	04	01	2.27	03	05.36
IUGR	13	02	4.54	11	19.64
IUDs	04	00	00	04	07.14
Neonatal Deaths	03	00	00	03	05.36

DISCUSSION

PIH is a pregnancy specific multi system disorder affecting both mother and the baby. Despite advances in medical practice PIH has remained a leading cause of maternal and fetal morbidity and mortality throughout the world. It is a common problem in developing countries because of illiteracy, poor antenatal care, lack of health awareness and poverty.

In the present study the overall incidence of PIH was 10.10% of which mild PIH was 4.41% and severe PIH was 5.69%. Similar study by Bhattacharya S et al9 had reported the overall incidence of PIH to be 15.5% and in another study by Vidyadhar et al8 the incidence of PIH was 8.96% which is closer to our study.

In our study, out of 100 cases 69 were registered cases and 31 were unregistered cases which reflect improvement in peripheral health care services and early referral by health care providers from peripheries, probably due to health care programmes implemented by Government.

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Present study revealed that PIH was more common among primigravidas and constituted 54% of the total cases. Study by Vidyadhar et al8 reported that 65% cases were primigravidas. Another study by Bhattacharya S9 reported 65.6% were primigravidas. Jose Villar et al10 and Duckitt et al11 also reported that primigravida was a risk factor for PIH. Ketz et al12 reported 70% women as primigravida.

In the present study the incidence of PIH was higher in the age group of 21-25 years followed closely by the age group of 26-30 years. Sudarsan S et al13 concluded that PIH involved young primigravidas and the age group was below 25 years of age in this study. Audrey et al14 concluded that maternal age < 20 years was the strongest risk factor for PIH.

In the present study, rate of caesarean delivery was 60% and vaginal delivery was 40%. Similar study by Oladokun A et al15, Miguil M et al16 and Dissanayake VH et al17 revealed caesarean section rates as 60%, 71%, and 78% respectively. Study by Vidyadhar et al8 revealed caesarean section rate as 35%.

In present study preterm labour was the commonest maternal complication affecting two out of 44 cases (4.54%) of mild PIH and 6 out of 56 (10.71%) cases of severe PIH. Abruptio placentae was the next common complication affecting one (2.27%) pregnancy in mild PIH and 6 (10.71%) pregnancies in severe PIH. In cases having severe PIH two (3.57%) had PPH and required blood transfusion. One (1.79%) case had renal failure and required dialysis at higher institute. One (1.79%) case had developed HELLP syndrome which was referred to higher institute.

A similar study by Vidyadhar et al8 reported major maternal complication included preterm labour in 17.94% of cases of mild PIH and 47.61% cases of severe PIH. Abruptio placentae affected 5.12% pregnancies in mild PIH and 19.04% in severe PIH and 4.76% of cases developed PPH and one case (2.38%) had renal failure. Al-Mulhim A.A et al18 stated that placental abruption was the most common maternal complication (12.6%) followed by oliguria (7.9%), coagulopathy (6.0%) and renal failure (4.1%).

In the present study IUGR was the commonest fetal complication seen. In mild PIH it was seen in 4.54% cases and in severe PIH it was seen in 19.64% of cases. Prematurity was the next common complication, seen in two cases (4.54%) of mild PIH and 6 cases (10.71%) of severe PIH cases. In our study the neonatal mortality was 5.36% and all were prematurely delivered babies. Kapoor et al19 concluded that the incidence of premature babies was 23% and prematurity was one of the major risk factor for increasing the perinatal mortality. In study by Shaheen et al20 perinatal mortality was 41.6% and prematurity was the main risk factor.

CONCLUSION

The clinical course of PIH is progressive in nature and is characterized by continuous detoriation, ultimately controlled by delivery of baby and placenta. Hence emphasis should be on early registration and regular antenatal checkups, to detect PIH as early as possible and in turn preventing severity and its associated complications.

In the present study PIH was still a very common problem in the rural population and it was common in young primigravidas. But the maternal and fetal outcome was very much improved when compared to other studies probably because of improved antenatal registrations and early referral to tertiary care hospital by peripheral health care providers. The improved outcome is also probably due to timely decision regarding mode of delivery and availability of specialist care during labour and after birth.

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