Original Research Article

An Observational Study On Pregnancy Induced Hypertension And It Outcome Among Patients Attending A Tertiary Care Hospital Of Bihar

Ravi Kumar Raman[1], Rekha Kumari[2*], Rajan Kumar[3]

[1]Assistant Professor, Department Of Medicine, PMCH, Patna, Bihar, India
[2]Senior Resident, Department Of Obstetrics & Gynecology, NMCH, Patna, Bihar, India
[3]Associate Professor, Department Of Medicine, PMCH, Patna, Bihar, India

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Abstract

Introduction: Pregnancy-induced hypertension (PIH) is become a one of the major public health issue. Almost 20% - 30% of the adult population and more than 5% - 8% of all pregnancies in the world suffered from hypertension (HTN) and 5% - 22% of all pregnancies have develop some kind of medical problem due to hypertensive. Present study was conducted with objectives to study the characteristics of PIH and to find out the association of PIH with perinatal and maternal outcome. **Methodology:** This prospective study was done among 100 cases of PIH admitted at department of obstetrics and Gynecology in Nalanda Medical College & Hospital, Patna, Bihar.Data collection was done after ethical permission from institutional ethical committee and informed consent of clients. Inclusion criteria for present study was all pregnant women ≥28 week of pregnancy irrespective of age and parity. The data were recorded in an Excel sheet and descriptive analysis was performed, of which data are presented in the tables and figures. **Results:** A total of 100 patients were included in the study. The mean age of the study participants was 25.7 years with a standard deviation (SD) of 5.2 years. Majority of the patients belonged to the age group of 21 to 30 years. Mean gestational age was 37.2 week with 5.2 weeks SD. Most common complaint was edema (63%) followed by headache (42%) and visual disturbance (11%). Proteinuria was present in 83% of the participants. Adverse perinatal outcomes were increased with increased level of Proteinuria. Among patients with mild PIH, 32% and among patients with severe PIH, 77% had retinal changes which were reversible. **Conclusion:** Pregnancy-induced hypertension is associated with multiple complications in the mother and baby, and particularly preterm delivery. Timely intervention of regular ANC check-up, nutrition, health education etc. can reduce the severity of PIH which lead to decrease in maternal and perinatal complications.

Key Words: Pregnancy Induced Hypertension, Outcome

Introduction

Pregnancy is a physiological event for utmost women[1]. Almost 20% - 30% of the adult population and more than 5% - 8% of all pregnancies in the world suffered from hypertension (HTN) and 5% - 22% of all pregnancies have develop some kind of medical problem due to hypertensive[2-6]. Severe HTN raises maternal complications like the risk of heart attacks, cardiac failure, cerebro-vascular accidents and renal failure and neonatal complications like inappropriate placental oxygen transfer, Intra-uterine growth retardation (IUGR), premature delivery, placental abruption, stillbirth, and neonatal death[2]. Pregnancy-induced hypertension (PIH) is become a one of the major public health issue[7-8]. Pregnancy-induced hypertension (PIH) is classified as 1) Pregnancy-induced hypertension (without proteinuria), 2) Pre-eclampsia (with proteinuria), 3) Eclampsia (preeclampsia with convulsions), 4) Gestational hypertension (transient hypertension of pregnancy or chronic hypertension identified in the latter half of pregnancy)[9].

Treating the hypertension does not modify the progression of disease. In spite of, early diagnosis and treatment of PIH decreases not only the incidence of hypertensive crisis, but also the rate of neonatal complications. Present study was conducted with objectives to study the characteristics of PIH and to find out the association of PIH with perinatal and maternal outcome.

*Correspondence
Dr. Rekha Kumari
Senior Resident, Department Of Obstetrics & Gynecology, NMCH, Patna, Bihar, India
E-mail: shreyashguptarekha25@gmail.com

Methodology

This prospective study was done among 100 cases of PIH admitted at department of obstetrics and Gynecology in Nalanda Medical College & Hospital, Patna, Bihar. Data collection was done after ethical permission from institutional ethical committee and informed consent of clients. Inclusion criteria for present study was all pregnant women ≥28 week of pregnancy irrespective of age and parity. Pre-tested questionnaire was administered and details like socio-demographic information, past history of medical illness, menstrual history were collected. Hypertension was identified based on the definition by the Australian Society of the Study of Hypertension in Pregnancy and that of the Working Group Report on High Blood Pressure in Pregnancy, which establish blood pressure levels >140/90 mmHg or hypertension diagnosis marked on the record[8, 10]. The data were recorded in an Excel sheet and descriptive analysis was performed, of which data are presented in the tables and figures.

Results

A total of 100 patients were included in the study. The mean age of the study participants was 25.7 years with a standard deviation (SD) of 5.2 years. Majority of the patients belonged to the age group of 21 to 30 years. Mean gestational age was 37.2 week with 5.2 weeks SD. The most common blood group was 'O +ve' followed by 'A +ve' and 'B +ve'. Almost one-third of the study participants had done ANC visit in routine visit and majority of them were primigravida. 75% delivery was done through vaginal route, 9% through instrumental (forceps and vacuum) and rest 16% were done through caesarean delivery. Severe anemia was present in 23% participants and very severe anemia in 8% participants [Figure 1].

Most common complaint was edema (63%) followed by headache (42%) and visual disturbance (11%). Proteinuria was present in 83% of the participants. Adverse perinatal outcomes were increased with

increased level of Proteinuria. Among patients with mild PIH, 32% and among patients with severe PIH, 77% had retinal changes which were reversible. On fundoscopy, 35% participants had grade I changes and 27% had grade II changes. The delivery was pre-term among 49%, full term among 50% and only 1 patient was post-term. Normal Doppler finding was observed in 57% participants. Present study observed APGAR score 0-3 in 5% participants, 4-6 in 49% participants and rest had score of 7-10 at 1 min. At 5 mins, none had score of 0-3, score of 4-6 was noted among 12% and rest had score of 7-10. Low birth weight was found in 51% baby. On follow-up, proteinuria was corrected among 98% of the patients.

Out of all, 51% participants had mild PIH and 49% had severe PIH. Figure 2 shows that maternal complication observed in 19 participants. Out of 19 patients, highest incidence of eclampsia was observed followed by APH and DIC. Perinatal complications were observed in 53% cases which include IUGR, birth asphyxia, RDS and perinatal death.

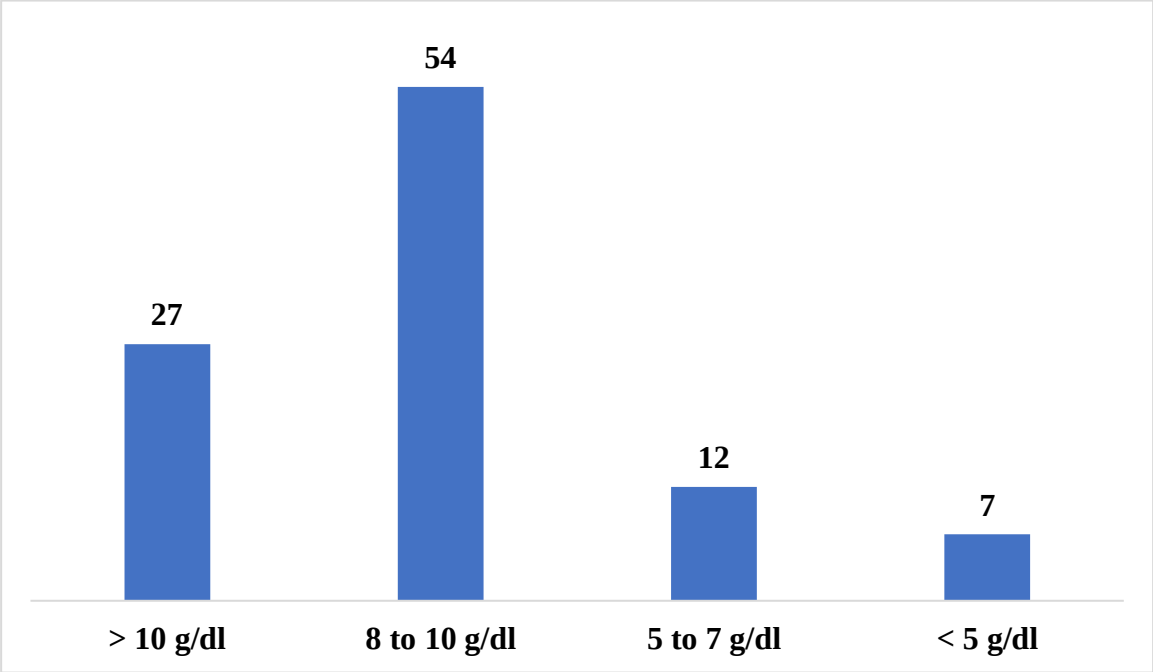

Figure 1: Column showing distribution of patients based on their Hb levels

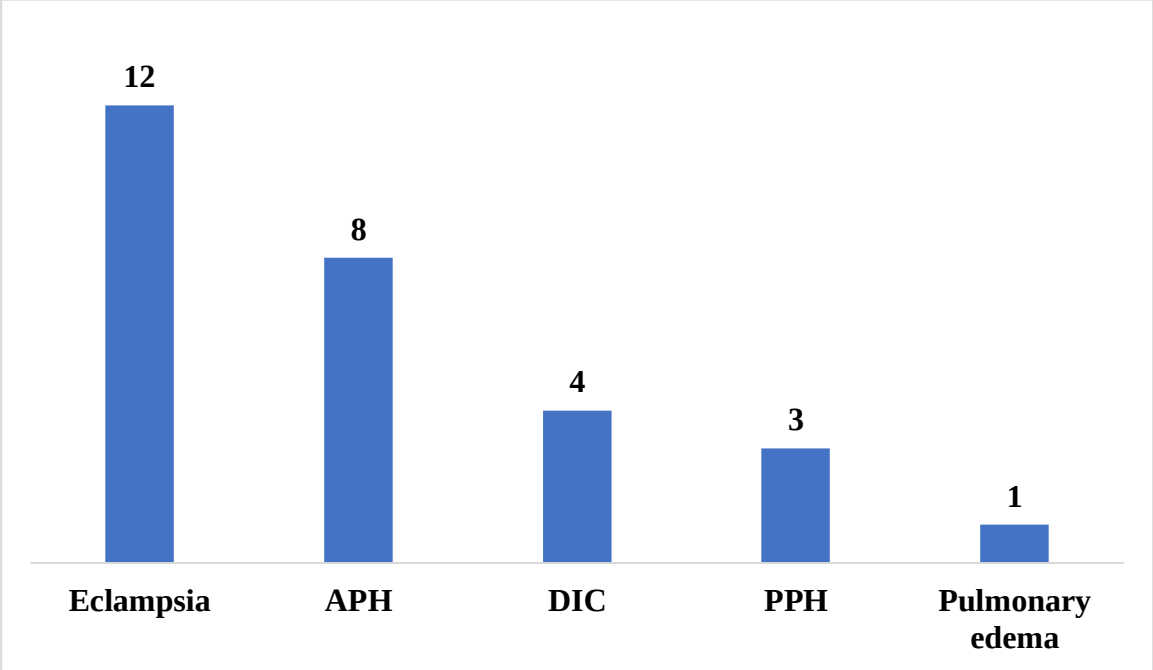

Figure 2: Column showing distribution of study population based on maternal complications

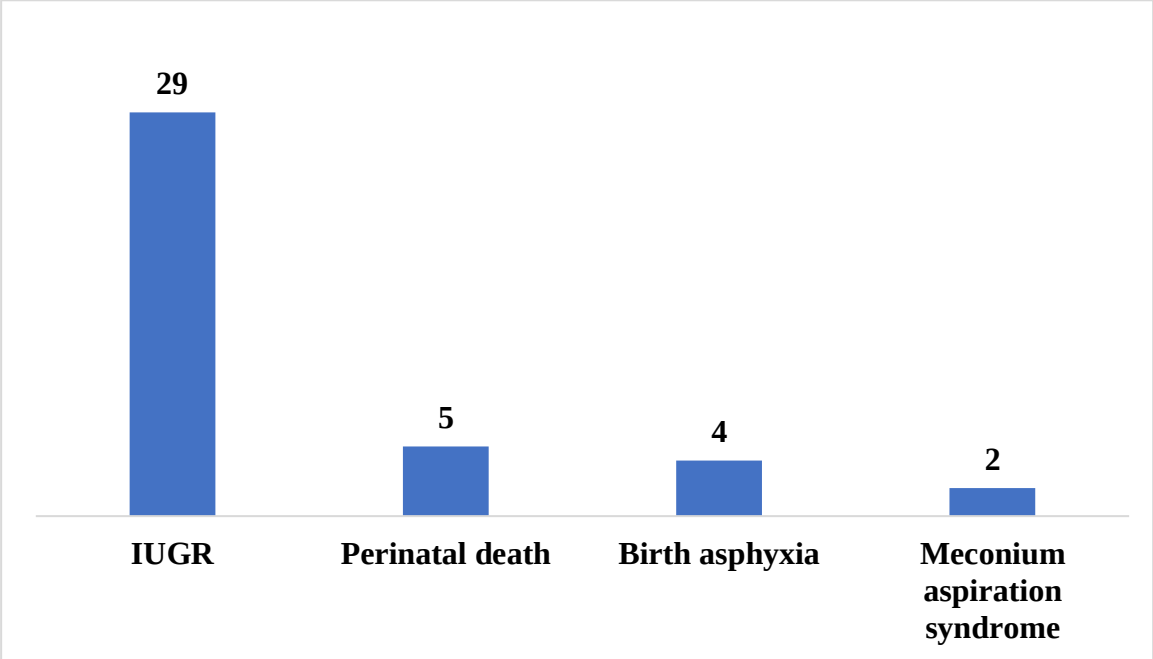

Figure 3: Figure 2: Column showing distribution of study population based on perinatal complications

Discussion

Incidence of PIH has been previously reported by many researchers[1,10-12]. Factors like awareness among women regarding ANC care, less incidence of teenage pregnancy responsible for the low incidence of PIH. Present study observed 1/3rd emergency cases which is comparable with the similar study done by Sivkumar S et al and Gadappa S et al[13,14]. Low incidence of emergency cases is due to awareness and counseling of the pregnant women. Present study observed PIH was more common in Primigravida cases and it was due to several factors like teenage pregnancy, early marriage, illiteracy, social ignorance and ritual and lack of family planning adaptation. This finding is correlated with the similar study done by Rose J et al and Dekker and Sibai et al[12, 15]. Mean age of participants was 25.7 years which is comparable with similar study done by Rose J et al[12].

In our study, normal hemoglobin level found in only 27% cases and anemia is responsible for high incidence of preterm delivery and low birth weight babies which leads to increase incidence of perinatal morbidity and mortality. Eclampsia was reported among12 cases. Events of convulsion can be decreased by regular ANC care. Present study observed poor perinatal outcome in patients. We found that PIH predisposes patients to the retinal change in fundoscopy grade. LSCS incidence in present study found among 16% cases and the indication for it were severe PIH, fetal distress, precious pregnancy, non-progress labour etc. Higher incidence of LSCS was found in similar study done by Sivakumar S et al[13]. Eclampsia was the most common complication in present study which was followed by APH, DIC which is quite comparable with the similar study done by Bansal V et al[16]. Many researcher have reported maternal deaths however, we did bot encounter any such adverse event during our study period[12]. Nutrition of the pregnant women is an important factor in foetal development. In our study, low birth weight incidence was observed in 51% cases. Low APGAR score (<7) in present study found in 54% cases (at 1 min) and 12% cases (at 5 min) which is higher than the similar study done by Khosravi S et al and Chaim SRP et al[1, 17]. Present study was found higher perinatal mortality and morbidity with increase in placental maturity.

Conclusion

Pregnancy-induced hypertension is associated with multiple complications in the mother and baby, and particularly preterm delivery. Complications such as HELLP syndrome can sometimes prove fatal to mother and fetus. Timely intervention of regular ANC check-up, nutrition, health education etc. can reduce the severity of PIH which lead to decrease in maternal and perinatal complications.

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