



PREGNANCY INDUCED HYPERTENSION: A PROSPECTIVE STUDY IN PREGNANT WOMEN

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ABSTRACT

Pregnancy induced hypertension is a major pregnancy complication, causing premature delivery, fetal growth retardation, abruption of placenta and fetal death, as well as maternal morbidity and mortality. This Prospective observational study was conducted for a period of 2 months in which a total of 45 cases were followed and observed to assess the prevalence of pregnancy induced hypertension and its determinants among pregnant women attending tertiary care teaching hospital. In addition to this all the 45 cases of PIH were studied according to severity and incidence of PIH was assessed in accordance to gravidity. A well structured data format was used to collect data. The data for the study were taken from case sheets and by means of face to face interview. We found that the prevalence of pregnancy induced hypertension was 17.8%. Statistical significant association was found between pregnancy induced hypertension and various considered parameters The factor that may be responsible for the low prevalence of hypertensive disorder in our hospital could be due to time constraint and small sample size. Further large scale depth study can be conducted to get more precise result.

KEYWORDS: Pregnancy induced hypertension, Gravidity, Incidence, Prevalence.

INTRODUCTION

Pregnancy induced hypertension (PIH) is defined as BP $\geq 140/90$ mmHg, taken after a period of rest on two consecutive measurements or $\geq 160/110$ mmHg on one occasion in a woman with no history of hypertension.^[1]

Pregnancy-induced hypertension (PIH) is a common condition during pregnancy with general incidence of 7% to 10% of all pregnancies.^[4] The incidence of PIH will vary with differences in definition, race, geographical area demographic and obstetric characteristics, or actual disease incidence^[3,7] poorly controlled or uncontrolled PIH may lead to various long term complications like chronic hypertension, ischemic heart disease, cerebrovascular disease and venous thromboembolism.^[1]

The PIH can be classified into various categories depending on the variations in various clinical settings. The most widely used classification was given by International Society for the Study of Hypertension in Pregnancy which categorise the Hypertension into 4 Categories like Pre-eclampsia, Chronic hypertension, pre-eclampsia super imposed on chronic hypertension and pregnancy induced Hypertension.^[2] According to our study need we categorise simply into 4 categories like Mild PIH, Severe PIH, Eclampsia, Chronic Hypertension.

Although the PIH causes significant maternal morbidity and mortality it is not well treated in clinical settings as the mechanisms and the pathogenesis that underlie were not clear.^[2,4] During normal pregnancy, there will be significant changes in cardiovascular and renal function occurs in order to meet the various metabolic needs of both mother and foetus. The mechanisms that are responsible for these changes during pregnancy have been studied extensively by various other studies, and it was found that endothelial factors such as nitric oxide play an important role.^[4]

The pregnant women with PIH were expected to have symptoms like generalized edema, rapid weight gain, Blurred vision or scotomata (ie, areas of diminished vision in the visual field), severe Headaches, epigastric or right upper quadrant pain, oliguria (urinary output < 500 mL/d) nausea, with or without vomiting, Hyperactive reflexes, chest pain or tightness, shortness of breath.

PIH can be confirmed by taking at least two accurate blood pressure measurements in the same arm in women without proteinuria, with readings of ≥ 140 mm Hg systolic and/or ≥ 90 mm Hg diastolic.^[5,8] It should then be determined whether the patient's hypertension is mild or severe. Generally increase in BP greater than the normal during pregnancy will be considered as PIH later depending on other investigations like presence of

Proteinuria, the diagnosis of PIH can be again replaced with specific diagnosis as follows:

- preeclampsia, if proteinuria develops;
- chronic hypertension, if blood pressure remains elevated past 12 weeks postpartum, if blood pressure normalizes by 12 weeks postpartum.^[5,8,11.,12]

Women with pre-existing renal disease, cardiac disease, or diabetes maternal age younger than 18 or older than 34, family history of pre eclampsia or eclampsia are at increased risk of developing PIH.

The present study focuses on prevalence of PIH and the determinants associated with PIH.

AIMS AND OBJECTIVES

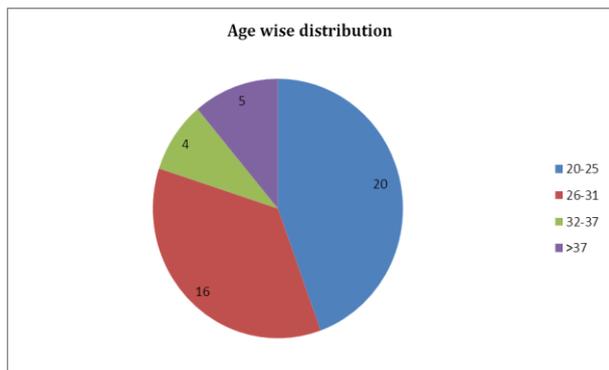
The study aims to evaluate the patients of pregnancy induced hypertension according to severity of PIH and to assess the prevalence of PIH.

MATERIAL AND METHODS

A prospective observational study was carried out in gynecology and obstetrics department of a tertiary care teaching hospital, Kadapa over a period of two months. The data for the study was collected in a well structured data collection profroma. Required information was obtained from case sheets, personal interviews with patient or patient’s attendant/s. This study was carried out in 45 pregnant women suffering from pregnancy induced hypertension admitted through antenatal clinic as well as in emergency and data was analysed. The study was mainly based on primary data. Data collection format was comprised of several topics, including socio-demographic background (age, educational status, occupation, family history, etc.), gravidity, blood pressure status and anemic status. After data collection, data were sorted, scrutinized and then analyzed.

RESULTS AND DISCUSSION

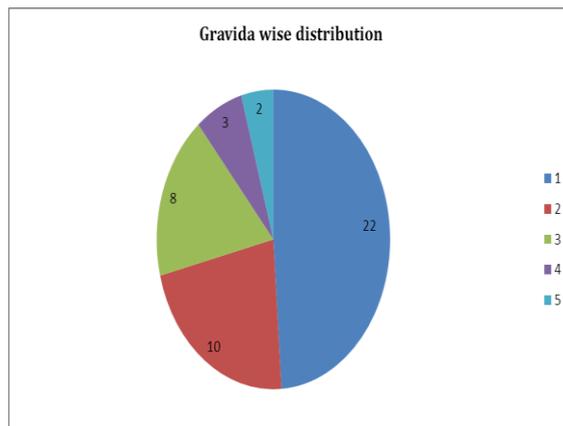
Age wise distribution Out of 45 pregnant women with PIH, 20 (44.4%) women were between 20-25 yrs, 16 (35.5%) were between 26-31 yrs, 04(8.88%) were between 32-37yrs and 05(11%) above 36 yrs.



Gravidity wise distribution

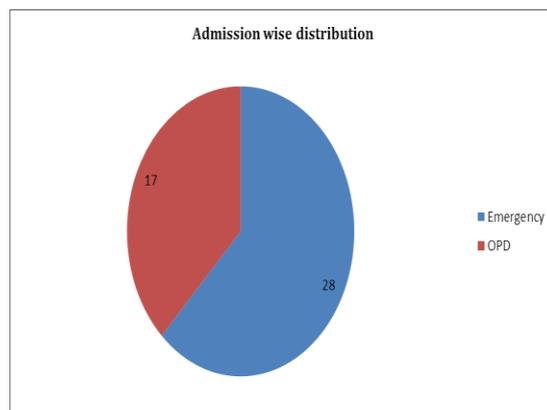
22(48.8%) pregnant women with PIH were primigravidae, 10(26.6%) were 2nd gravida, 08(17.7%)

were 3rd gravida, 03(6.66%) 4th gravid, 2(4.44%) more than G-4.



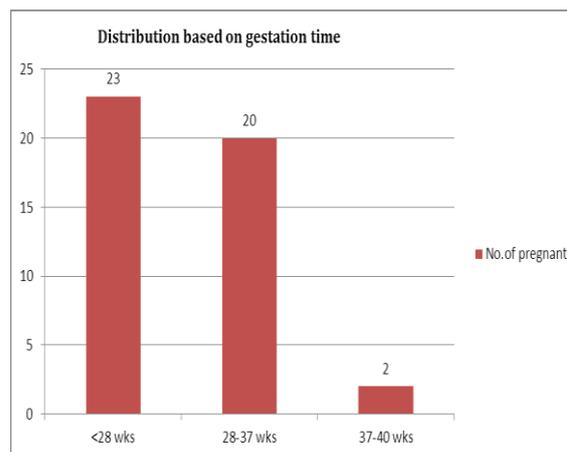
Admission (Emergency/O.P.D) wise distribution

Pregnant women with PIH admitted through emergency were 28 out of 45(62.2%) and 17(37.77%) women admitted through O.P.D.

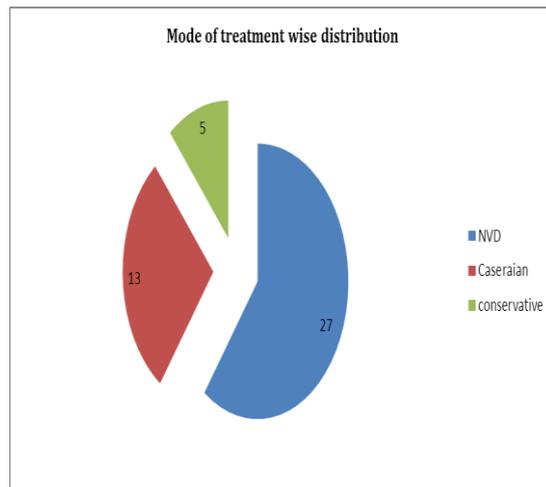
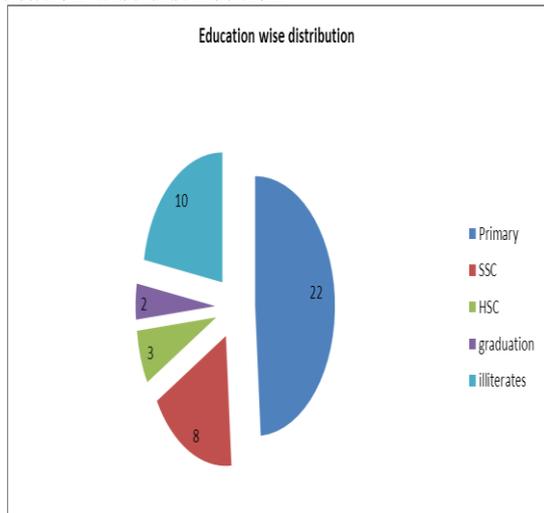


Gestation time

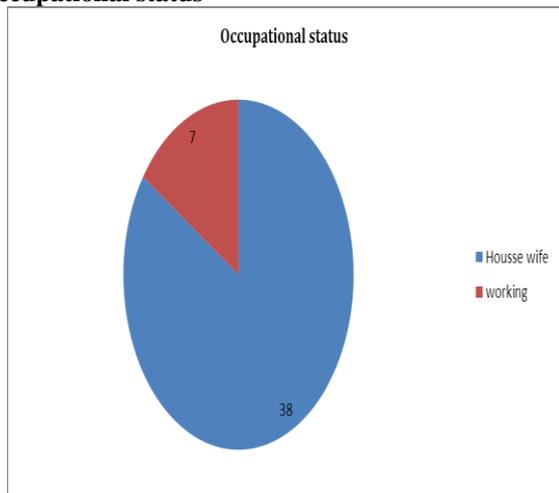
23 (51.1%) pregnant women with PIH were having gestation time less than 28 weeks, 20(44.44%) of pregnant women with PIH were gestation time between 28-37 weeks, 02 (4.4%) of pregnant women with PIH were gestation time between 37-40 weeks.



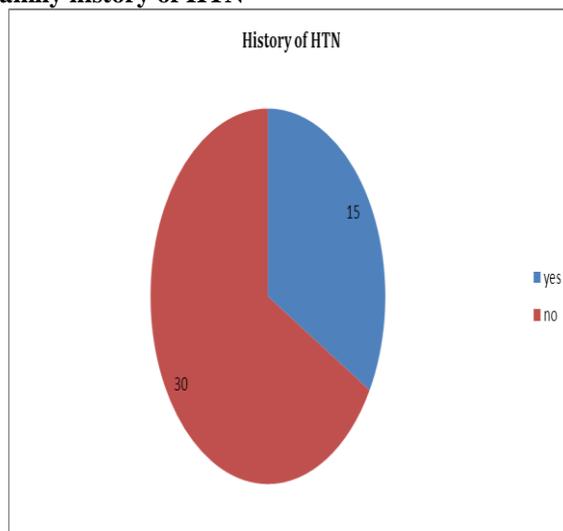
Education wise distribution



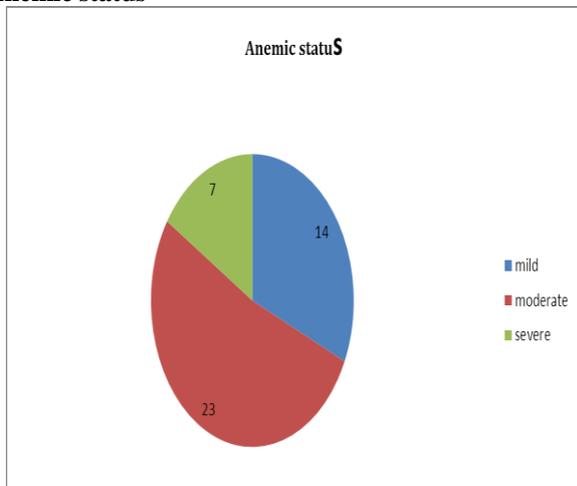
Occupational status



Family history of HTN

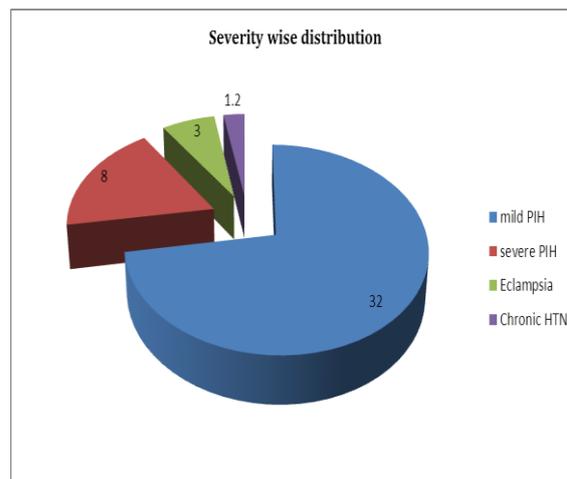


Anemic status



Severity wise Distribution

Out of 45 pregnant women admitted for PIH, 32(71.11%) were categorized as having mild PIH, 08(17.77%) were labelled as cases of severe PIH, 03(6.66%) women presented with eclampsia and 02(4.44%) had chronic hypertension.

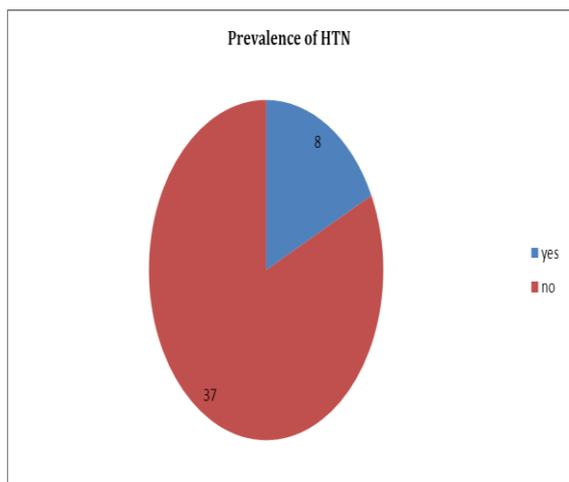


Mode of treatment

27 (60%) of pregnant women with PIH were delivered by normal vaginal delivery, 13 (28.8%) of pregnant women with PIH underwent caesarean section for various causes, 5 patients were treated conservatively.

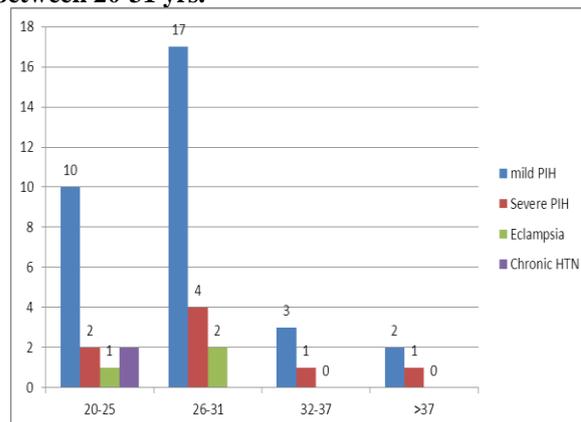
Prevalence of pregnancy induced hypertension (n=45)

PIH	Frequency	%
Yes	8	17.8
no	37	82.2



Pregnancy induced hypertension and various parameters

A. Most of the patients with PIH fell in the age between 20-31 yrs.



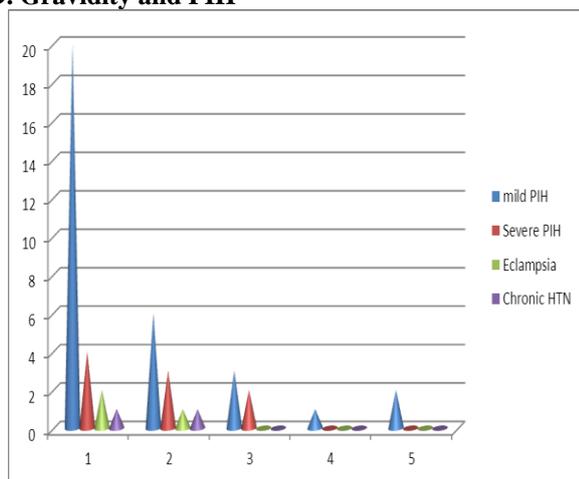
B. Gestation time and PIH

Gestation time	Mild PIH	Severe PIH	Eclampsia	Chronic HTN
<28 wks	3	2	0	0
29-37 wks	19	4	2	1
>37 wks	10	2	1	1

C. Mode Of Treatment and PIH

MOA	Mild PIH	Severe PIH	Eclampsia	Chronic HTN
NVD	17	3	1	2
Caesarian	14	4	2	0
Conservative	1	1	0	0

D. Gravidity and PIH



DISCUSSION AND CONCLUSION

Pregnancy-induced hypertension (PIH) is a syndrome of hypertension with or without proteinuria and edema, with the clinical manifestation usually occurring late in pregnancy and regressing after delivery of the conceptus. It is a major pregnancy complication, causing premature delivery, fetal growth retardation, abruption of placenta

and fetal death, as well as maternal morbidity and mortality.

In our study the prevalence of pregnancy induced hypertension was 17.8%. Pregnancy induced HTN was mostly observed in the age between 20-31 yrs. More than half of the respondents completed primary level education. Three-fourth of the respondents had family history of hypertension. More than half of the respondents (51.1%) suffered from moderate anemia. Statistical significant association was found between pregnancy induced hypertension and age group, education and occupation. From the above study it is evident that PIH has a significant impact on the maternal and foetal outcome. The morbidity and mortality depends on severity of PIH, regular antenatal check up after proper registration done or not in antenatal clinic, proper follow up of pregnant women with PIH done or not and timely referral of such patients to higher centers.. There is no way known to prevent preeclampsia and eclampsia. However, the outcome can be improved with prompt recognition and management. So regular care would definitely save the mother from complications like eclampsia, abruption of placenta, IUGR, IUD etc and salvage foetus and mother. The factor that may be responsible for the low prevalence of hypertensive

disorder in our hospital could be due to time constraint and small sample size as the study was conducted over a short period of time thus we could have missed essential characteristics among women who did not get the chance to be part of this study. Further large scale depth study can be conducted to get more precise result.

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