Original Article

A study of prevalence and clinical profile of the patients having hypertensive disorders of pregnancy

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Abstract

Introduction: Hypertensive disorder in pregnancy is a condition in which the pregnant woman presents with an elevated blood pressure during pregnancy or puerperium as defined in 1986 by the American College of Obstetricians and Gynecologists and adopted by the World Health Organization (WHO). Hypertensive disorder of pregnancy is seen after 20weeks of pregnancy. It affects almost 6-10% of all pregnancies worldwide. Systolic blood pressure above 140 and diastolic blood pressure above 90mm of Hg with associated proteinuria. Eclampsia means patients with severe preeclampsia develop tonic-clonic convulsions. **Material and Method:** It was prospective hospital based observational study of patients of hypertensive disorders of pregnancy conducted at Bharti Hospital, Sangli in the department of Obstetrics and Gynecology. In this study patients with essential hypertension and chronic hypertension, patients with known renal disease prior to pregnancy were excluded. **Results:** The prevalence of Hypertension overall was 29.20 i.e. 125 out 428 ANC registered women. As per age wise in 10-16 years age group it was 29.26% in 17-19 years was 15.00 in 20-24 years. **Conclusion:** The overall prevalence of PIH in our study was Hypertension overall was 29.20. And associated factors were Obesity, H/o Hypertension, Family H/O of PIH, Diabetes, Primipara, H/O Exposure to Smoking.
Keywords: hypertensive disorders, pregnancy.

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INTRODUCTION

Hypertensive disorder in pregnancy is a condition in which the pregnant woman presents an elevated blood pressure during pregnancy or puerperium as defined in 1986 by the American College of Obstetricians and Gynecologists and adopted by the World Health Organization (WHO)[1-4]. Previous reports defined hypertension in pregnancy as a condition presented with a diastolic blood pressure of at least 90 mmHg or a systolic blood pressure of at least 140 mmHg, or a rise in diastolic blood pressure of at least 15 mmHg or a rise of 30 mmHg in systolic blood pressure[2,3]. In the obstetric condition, the Working Group recently defined hypertension in pregnancy as a condition in which, the diastolic blood pressure is at 90 mmHg or above, or a systolic blood pressure is at 140 mmHg or above [5]. Moreover, WHO considers only an elevated value of diastolic blood pressure as a criterion for defining the disorder [3]. The disorder complicates 4-10% of pregnancies [6 - 10]. The American College of Obstetricians and Gynecologists and the United Nations Organization recognize four categories of hypertension in pregnancy. These include chronic hypertension, gestational hypertension, preeclampsia/eclampsia, and superimposed preeclampsia/eclampsia, a condition defined as chronic hypertension complicated by preeclampsia/eclampsia [2 - 4]. Several studies have analyzed the risk factors for hypertensive disorders in pregnancy and the identified

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risk factors include obesity, a family history of hypertension, alcohol intake, heart failure, stroke and left ventricular hypertrophy and smoking etc.[11 - 13].

MATERIAL AND METHODS

This was prospective hospital based observational study of patients of hypertensive disorders of pregnancy study carried out in OBGY department of tertiary health care center in women registered for Antenatal care during the year January 2015-January 2016. All the patients screened for the Pregnancy Induced hypertension with the help of Clinical features like Severe head ache, Pitting edema and Blood pressure Systolic SBP increase >30 mmHg or DBP increase ≥15 mmHg or blood pressure≥140/90 mmHg on two occasions ≥ 6 hours apart and presence of Urine albumin was considered as the patients of PIH [14.] In the duration of one year there were 125 patients of PIH and rest of the patients were 303 normotensive so total 428 ANC registered were studied. Statistical analysis was done by Graph pad prism 5 and Chi square test and Z-test /SEP (Standard Error of difference between two proportions) was used to see the test of significance.

RESULT

Table 1: Distribution of the Patients as per the Age wise

Age (groups)	Hypertensive (No.)	(%)	Normotensive (No.)	(%)	Total
16-18 years	12	29.26	29	70.74	41 (100)
19-21 years	15	15.00	85	85.00	100(100)
22-24 years	35	28.00	90	72.00	125 (100)
25-27 years	38	32.20	80	67.79	118 (100)
28-30 years	13	56.53	10	43.47	23 (100)
31-33 years/ others	12	57.15	9	42.85	21 (100)
Total	**125**	**29.20**	**303**	**70.80**	**428(100)**

Chi-square test for trend, X^2 =16.83, df=1, P<0.0001, highly significant

The prevalence of Hypertension overall was 29.20 i.e. 125 out 428 ANC registered women. As per age wise in 16-18 years age group it was 29.26% in 19-21 years was 15.00 in 22-24 years. was 28.00% in 25-27 years was 32.20% ;28-30 years was 56.53 in ≥31-33 years was 57.15 this increasing trend as per age of PIH was significantly as compared to Normotensive (Chi-square test for trend, X^2 =16.83, df=1, P<0.0001, highly significant).

Table 2: Distribution of the Patients as per associated risk factors

	Hypertensive (n=125) (%)		Normotensive (n=303) (%)		P-value (Z-test)
Obese (BMI>25)	65	52	132	43.56	Z=4.78. P<0.001
K/C/O Hypertension	56	44.8	78	25.74	Z=3.45, P<0.001
Family H/O of PIH	49	39.2	60	19.80	Z= 4.35, P<0.005
K/C/O Diabetes	29	23.2	30	9.90	Z=3.38, P<0.001
Primipara	24	19.2	26	8.58	Z= 3.47, P<0.001
H/O Exposed to Smoke	18	14.4	20	6.60	Z=4.56, P<0.001
Age ≥ 30 Yrs.	25	20 %	19	6.27 %	Z= 3.207, P<0.001

The factors like Obesity(BMI>25), in Hypertensive was 52% and in Normotensive was 43.56 % respectively and this difference was statistically significant (Z=4.78. P<0.001); For K/C/O Hypertension was 44.8% and 25.74% (Z=3.45, P<0.001); for Family H/O of PIH was 19.80% and 39.2% (Z= 4.35, P<0.005); For K/C/O Diabetes it was 23.2% and 9.90% (Z=3.38, P<0.001) ; For Primipara it was 19.2% and 8.58% (Z= 3.47, P<0.001) ; For H/O Exposed to Smoke it was 14.4% and 6.60% (Z=4.56, P<0.001) and for age Age ≥ 30 Yrs. Was 20 % and 6.27 % (Z= 3.207, P<0.001).

DISCUSSION

In our study we have found that The prevalence of Hypertension overall was 29.20 i.e. 125 out 428 ANC registered women. As per age wise in 16-18 years' age group it was 29.26% in 19-21 years was 15.00 in 22-24 years was 28.00% in 25-27 years was 32.20%; 28-30 years was 56.53 in ≥ 31-33 years was 57.15 this increasing trend as per age of PIH was significantly as compared to Normotensive (Chi-square test for trend, X^2 =16.83, df=1, P<0.0001, highly significant). This was similar to Chesley LC[15], Saftlas AF[16]The extreme ages of reproductive years are well known risk factors for hypertension during pregnancy with high incidence rates in teenagers and age more 32 yrs. The factors like Obesity(BMI>25), in Hypertensive was 52% andin Normotensive was 43.56 % respectively and this difference was statistically significant (Z=4.78. P<0.001) ; For K/C/O Hypertension was 44.8% and 25.74% (Z=3.45, P<0.001); for Family H/O of PIH was 19.80% and 39.2% (Z= 4.35, P<0.005) ; For K/C/O Diabetes it was 23.2% and 9.90% (Z=3.38, P<0.001) ; For Primipara it was 19.2% and 8.58% (Z= 3.47, P<0.001) ; For H/O Exposed to Smoke it was 14.4% and 6.60% (Z=4.56, P<0.001) and for age Age ≥ 30 Yrs. Was 20 % and 6.27 % (Z= 3.207, P<0.001). This was similar to Nucci *et al.*[17]

who showed that overweight nutritional status (obesity and pre-obesity) was associated with an increased risk for preeclampsia, Gaio *et al*.[18] who identified obesity as a risk factor for preeclampsia/eclampsia and chronic hypertension, and Assis *et al*.[19] who demonstrated that obesity is a risk factor for gestational hypertension and for preeclampsia superimposed on chronic hypertension. Actions in public health could prevent and/or treat obesity and, consequently, could prevent hypertensive disorders. With regard to diabetes, Schmidt *et al*.[20] confirmed that gestational diabetes mellitus is independently associated with preeclampsia in Brazilian women, and preexisting diabetes mellitus is also a risk factor for preeclampsia[21]. Women with preexisting chronic hypertension also have an increased risk of preeclampsia [22,23]In the present study, diabetes, and particularly, preexisting chronic hypertension were risk factors for preeclampsia in Southern Brazilian women. Thus, actions in the public health focused to prevent these diseases are important to also prevent preeclampsia.

CONCLUSION

The overall prevalence of PIH was 29.20%. And associated factors were Obesity, H/o Hypertension, Family H/O of PIH, Diabetes, Primipara, H/O Exposure to Smoking.

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