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Original Research Article.

A Clinical Study on Hypertension in Pregnant Women in Rural Medical College

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ABSTRACT

Background: Hypertension disorders are frequently encountered complication of pregnancy and remains a major cause of maternal and perinatal morbidity and mortality. 10% of pregnant women have complications because of hypertension worldwide. In India and developing countries, it is still high. The major complication due to hypertension is Eclampsia. Preeclampsia is a major cause of maternal and perinatal mortality worldwide causing more than 15% of all direct maternal deaths in India and developing countries. Eclampsia includes Hypertension, Edema feet, and proteinuria which starts after 20 weeks of pregnancy, and gestational hypertension is defined as a systolic blood pressure > 140mm of Hg in the absence of proteinuria severe hypertension in pregnancy is called when diastolic blood pressure is more than 110mm of Hg on more than 2 occasions.

Aim of the Study: To know the prevalence, presentation, and complications of hypertension in pregnancy in a rural medical college.

Materials and Methods: We have conducted this study in Fathima Medical college. In the department of obstetrics and gynecology for 2 years from June 2016 to May 2018. We have included 1220 pregnant women in this study.

Results: We have included 1220 pregnant women in this study out of these 1220, 145 had hypertension and 32 patients had severe hypertension and maternal mortality is 11%.

Conclusion: Hypertension disorders are one of the commonest complications of pregnancy and may be associated with significant maternal and fetal morbidity and mortality. The mainstay of treatment is with antihypertensives only.

Keywords: Hypertension, Pregnancy, Eclampsia, Mortality, Neonatal, Morbidity.

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INTRODUCTION

Hypertension in pregnancy is one of the commonest disorders which affects pregnant women. It is associated with high perinatal and maternal mortality. In India, more than 10% of pregnant women are affected by hypertension. It is a major problem in developing countries like Srilanka, Bangladesh, Myanmar, and some African countries also. Worldwide the incidence is around 5-7%.[1] Hypertensive disorder during pregnancy occurs in women with pre-existing primary or secondary chronic hypertension and in women who develop new-onset hypertension in the second trimester of pregnancy. Major cardiovascular and renal changes occur during pregnancy to ensure optimal development of the placenta and fetus and to protect the health of the mother.[2] The changes that occur are an increase in cardiac output reduction in systemic vascular resistance and systemic blood pressure. In pregnancy, plasma volume increases by over a liter from 2600 ml to approx. 5000ml.

Women who are hypertensive and pregnant must be subdivided into those with 1) Chronic hypertension 2) Pregnancy included or gestational hypertension (GH). Classification of hypertension in pregnancy is divided into a) New onset hypertension and/or proteinuria in pregnancy b) Chronic hypertension and renal disease c) Unclassified.[3] Preeclampsia is hypertension developing after 20 weeks of gestation with proteinuria and or edema. Gestational hypertension is hypertension developing after 20 weeks gestation without other signs of hypertension before 20 weeks of gestation in the absence of neoplastic trophoblastic disease.[4]

MATERIALS AND METHODS

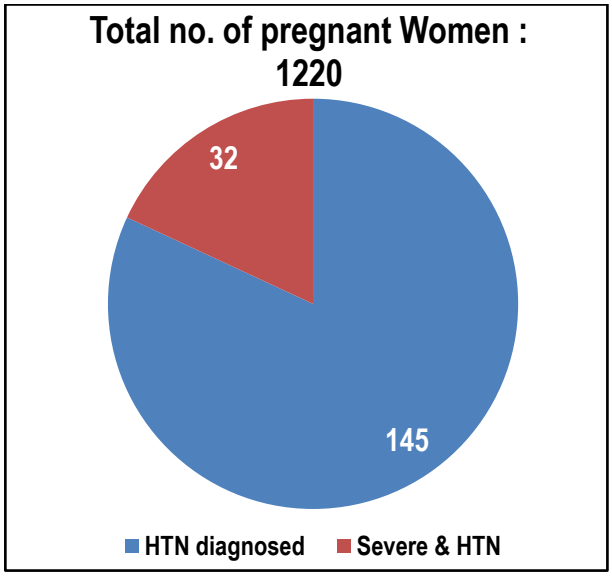
We have conducted this study at Fathima medical college for 2 years from June 2016 to May 2018 in Andhra Pradesh in the department of gynecology. We have included 1220 pregnant

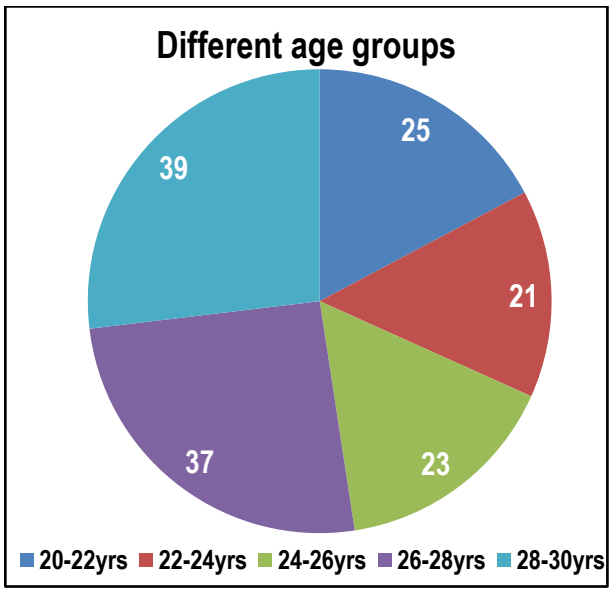
women in this study. We found that 145(11.88%) had hypertension and 32(2.8%) Pregnant women had severe hypertension and mortality was 3.9%. the inclusion criteria are the pregnant women who were in the age group of 20yr and 30 yrs and who are attending antenatal OP's regularly and on regular treatment. Blood pressure was recorded with all the precautions by giving rest and 2 average recordings were taken. The investigations include complete urine examination, Blood Sugar, Blood urea, and serum creatinine. Everything is recorded after careful examination and after history taking.

Study Design: All the pregnant women registered at antenatal clinics were given informed consent forms in their local language. Data is collected systemically and computerized by using MS office.

RESULTS

We have included 1220 pregnant women in this study out of this 1220, hypertension is found in 145 pregnant women (11.85%). This almost correlates with study conducted by Sachdeva et al.[5] The common age group involved is between 26yr and 30yrs more than 50% patients belong to this age group the study conducted by Parekh et al shows 42% of cases were found in 3rd decade.[6]





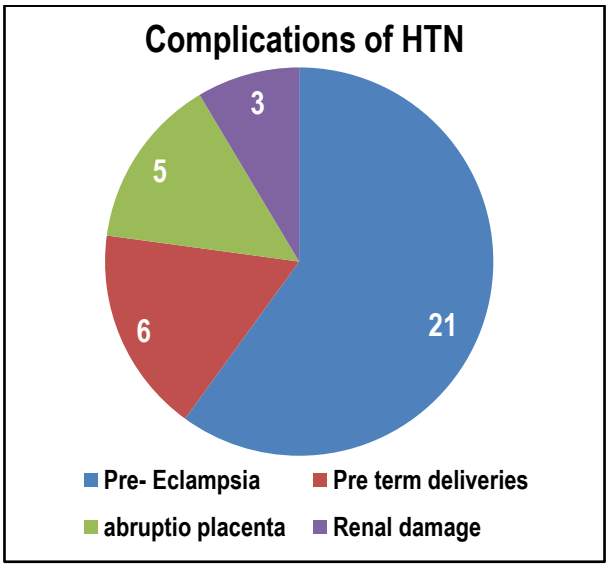


Table I: Different age groups

Age groups in years	No. of pts(145)	%
20-22yrs	25	17.24%
22-24yrs	21	14.48%
24-26yrs	23	15.25%
26-28yrs	37	25.51%
28-30yrs	39	26.89%

Table II: Socio-demographic analysis

Education	Occupation of Husband	No. of pts	%
10th standard	Semiskilled	62	42.75%
Graduation	Technician	53	36.55%
Post graduation & others	Executive	35	24.13%

Table III: Different clinical features:

Clinical features	No. of pts	%
Edema Feet	126	86.25%
Proteinuria	78	53.79%
Convulsions	21	14.48%
Others	18	12.41%

More than 60% of pregnant women belong lower middle class. In these groups, medical facilities are not available institutional deliveries are still low in rural areas. So perinatal and maternal mortality is very high in rural areas and low socio-economic group society. The study conducted by Prakash et al shows more than 67.9% of pregnant women belong to the low socio-economic group.[7] The complications noted in our study are pre-eclampsia in 21 pregnant women and proteinuria. Out of 145, 32 pregnant women were having diastolic blood pressure of more than 110mm of Hg. And maternal mortality is 3.9%. the other complications are preterm delivery and rural damage.

DISCUSSION

Hypertension in pregnancy is a very common disorder that occurs in pregnant women worldwide. The diagnosis is made when systolic blood pressure is more than 140mm of Hg and diastolic

pressure is more than 90mm of Hg on more than 2 occasions. In the absence of any pathological process like pre-eclampsia, blood pressure remains normal during the pregnancy despite the cardiac output increases the systolic and diastolic pressures may drop up to 5mm of Hg and 10mm of Hg respectively.[8]

The changes that occur during pregnancy are increased cardiac output, increased blood volume, and increased red cell mass. And increased plasma volume the common symptoms are hyperventilation, Hot flushes, edema, tachycardia.[9] Preeclampsia is the gestational hypertension of at least 140/90 mmHg. On 2 separate occasions 4 hours apart accompanied by significant proteinuria. Significant proteinuria is the most important clinical variable predicting both maternal and perinatal outcomes.

In our study, the prevalence is about 11% it is very high in rural areas and low socio-economic communities. Because women belong these areas visits hospitals very late or when they have any complications. In other studies, they varied from 7.49%, 14.7%, 6.32%. Respectively the studies conducted by Mahajan et al show almost similar results.[10] A study conducted by Sayeed et al in Bangladesh shows the prevalence of systolic and diastolic blood pressure shows 6.8% and 5,4%. The common age group involved in our study shows around 28yrs and 30years. The study conducted by parryyin et al shows the risk of developing hypertension in pregnancy tends to increase with maternal age in comparison with women aged 20-25yrs. The odd ratio was 3:7 in women aged 26-30years and 4.2 in those aged > 30yrs. The study conducted by ownredu et al shows nearly similar findings.[11] The complications also increase with subsequent deliveries. Maternal mortality was high in rural areas than in urban areas.

The pathophysiology of complications is to convert maternal uterine spiral arteries. Which supply the developing the placenta the loss of endothelium and muscular layers within these uterine vessels render then unresponsive to vasomotor stimuli; Ischaemic placental contributes to endothelial cell dysfunction in the maternal vasculature by inducing alteration is antigenic factors. Lipid peroxidases, inflammation, cytokines, and autoantibodies also play a major role in preeclampsia.

CONCLUSION

Hypertension in pregnancy is a major disorder that occurs during pregnancy. Preeclampsia remains a major cause of maternal and fetal morbidity as a complication. A high rate of mortality and morbidity occurs in rural areas. Early diagnosis and early treatment can reduce the complications due to hypertension in pregnancy.

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