

Prevalence of Hypertension in Pregnancy in Rural South India.

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Received: Sept 2017

Accepted: Nov 2017

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ABSTRACT

Background: Hypertension is one of the common causes of mortality and morbidity in pregnant women in India. **Methods:** We conducted a study on two hundred and eight 208n pregnant women consisting of 101 prim gravidae, 78 gravidae 2 and 33 multi gravidae; We conducted a study on this pregnant women between January 2017 to May 2017, In our hospital. **Result:** Seventeen (17 that means 8%) Pregnant women were having hypertension. Majority of pregnant women in the study population were prim gravidae (48%). Nearly 80% of hypertension pregnant woman were prim gravidae. 88% developed hypertension in III trimester. Complication like preeclampsia was in 24%. **Conclusion:** Pregnancy-induced Hypertension is the common variety of pregnant women. It is commonly seen in prim gravidae who are exposed to the trophoblastic tissue for the first time.

Keywords: Hypertension, Pregnancy, Complications, India.

INTRODUCTION

Hypertension in pregnancy is a most common medical complication. It ranges from a mild-to-severe and major cause of material & perinatal morbidity and mortality. Hypertension during pregnancy (Pregnancy-Induced Hypertension (PIH), Preeclampsia, Eclampsia) is difficult to treat. Eclampsia and preeclampsia contribute to death of one woman every 3 minutes worldwide. Hypertension disorder in pregnancy is the third leading cause of maternal mortality after other causes like hemorrhage & sepsis. Pregnancy specific syndrome. It occurs in 5% of all pregnancies, 10% of first pregnancies and 20-25% of woman with chronic hypertension. There are only isolated documentations of hypertension in pregnancy in India Hypertension is present in 6-8% of young women of childbearing age but the prevalence increases with advancing age and in woman with diabetes mellitus, primary renal disease or collagen vascular disease reading up to 20 % in such population.

The question of whether hypertension in pregnancy and specifically pre-eclampsia are a marker for

cardiovascular disease later in life has implications for health promotion in women, similar to the link between gestational diabetes and the later development of clinical diabetic state. To evaluate such a risk, long follow-up will be necessary.

Working group of national high blood pressure education program 2000 classification of hypertensive disease is as follows.

- Gestational Hypertension (formerly added PIH or transient hypertension of pregnancy).
- Preeclampsia & Eclampsia syndrome.
- Seizures, intracerebral hemorrhage, pulmonary preeclampsia syndrome superimposed on chronic hypertension.
- Chronic hypertension.

Maternal diastolic blood pressure of more than 110 mmHg is associated with an increased risk for abruptio placentae, intrauterine foetal death. Severe maternal complications include eclamptic oedema, acute renal failure, and proteinuria greater than 4.5 g/dl, liver dysfunction, disseminated intravascular coagulation and consumptive coagulopathy. Perinatal mortality and morbidity are also high due to chronic placental insufficiency and growth restriction of foetus.

Aims and Objectives

- To find out prevalence of hypertension in pregnant women attending antenatal outpatient department of the hospitals.
- To estimate the prevalence of hypertension in pregnancy.

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MATERIALS AND METHODS

The present prospective study was carried out jointly in the department of between January 2017 to July 2017, 416 pregnant women attending the antenatal outpatient department were screened for hypertension. Blood pressure were measured in the supine, left lateral and sitting position in the both the upper limbs. Systolic blood pressure of more than 140 mmHg and diastolic blood pressure of more than 90 mmHg are taken as cut of values for labeling a pregnant woman as hypertensive. Disappearance of Korotkoff's sound phase V was taken as cut-off for diastolic blood pressure measurement. Age parity, gestational age at which blood pressure are recorded, pervious obstetric history of pregnancy-included hypertension and its complications, family history of hypertension & diabetes mellitus, presence of petal edema or anasarca, excess weight gain are noted. Relevant laboratory investigations like complete urine examination, random blood sugar, liver function test, renal function test were done and value are noted.

Results obtained were tabular and analyzed

Inclusion Criteria

1. All pregnant women attending antenatal OPD.
2. Age 20-35 years.
3. Not having any previous history of hypertension.

Exclusion Criteria

1. Pregnant women >35 years.
2. Any past history of hypertension.
3. Pregnant women having other systemic disease.

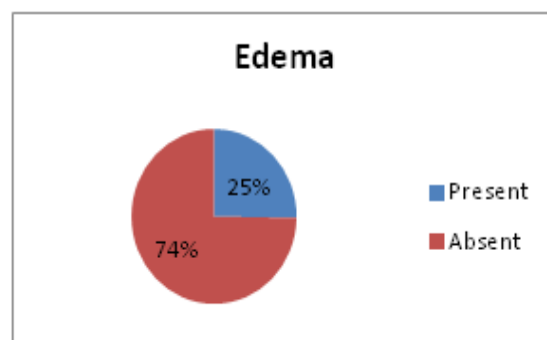
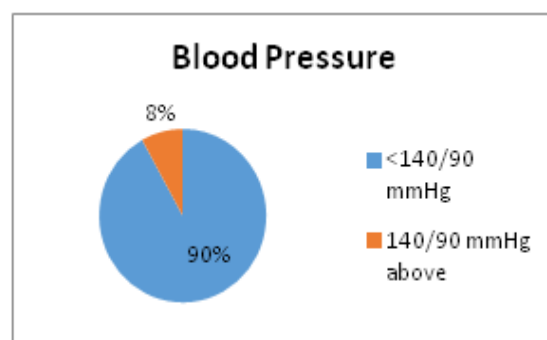
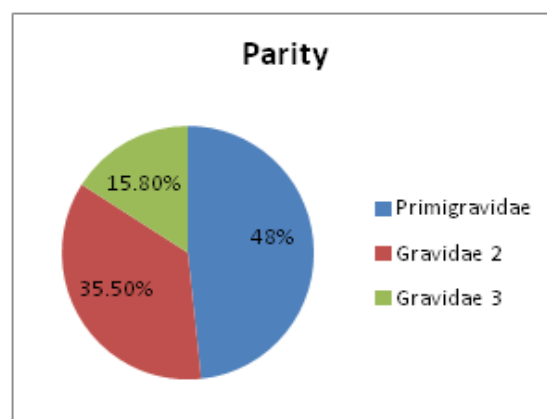
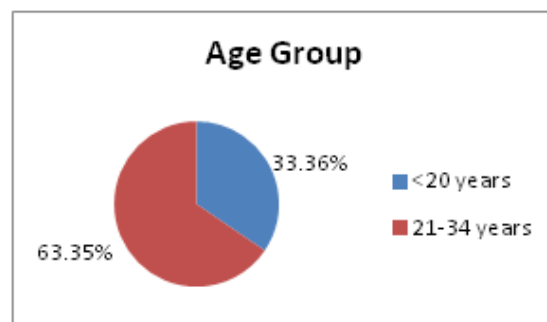
RESULTS

Table 1: Demographic Characteristics of Pregnant Women

| Variables | | No.of cases(%) |
|--------------------------|-------------------|----------------|
| Age group | 20 & Less yrs. | 70 (33.65%) |
| | 21-34 yrs. | 138 (63.35%) |
| Parity | Primigravidae | 101 (48%) |
| | Gravidae 2 | 74 (35.5%) |
| | Gravidae 3 | 33 (15.8%) |
| Blood Pressure | <140/90 mmHg | 98 (90%) |
| | 140/90 mmHg above | 18 (8%) |
| Edema | Present | 26 (25%) |
| | Absent | 78 (74%) |
| Edema, with Hypertension | Present | 4 (50%) |
| | Absent | 3 (45%) |
| BMI | <25 | 65(83.17%) |
| | >25 | 17.5(16.83%) |
| Trimester | III Trimester | 8 (85%) |
| | II Trimester | 1 (3%) |
| | I Trimester | 1 (3%) |

Out of 416 pregnant women, 33.65% were less than 20 yrs., 66.34% were between 21-34yrs. Prim gravidae(48.56%) were more than 2(35.58%) and multigravida (15.87%), 34(8.2%) were hypertensive

[Table 1]. Edema was present in 25.48% of pregnant women & 52.94% of hypertensive women has edema. Most of high blood pressures were note in III trimester (88.24%). 83.17% of pregnant women had normal BMI. [Table 2] shows preeclampsia is a common complication (23.52%). Proteinuria was absent in 76.47%, raised serum uric acid was seen 'in 58.82% & other investigations were normal [Table 3].



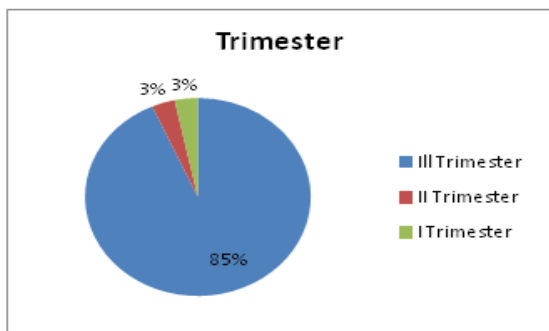
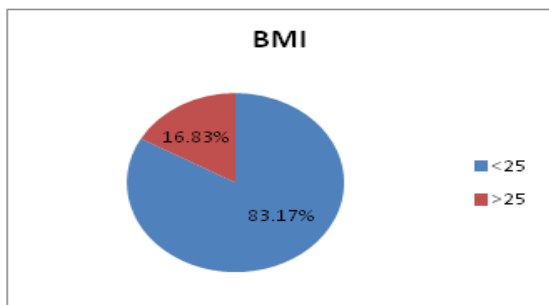
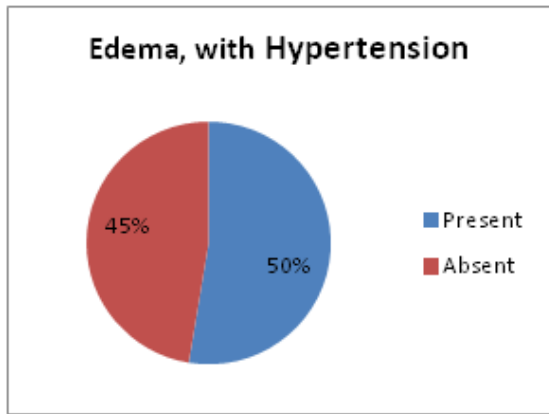


Table 2: Complications of Hypertension in Pregnancy in Study Population

| Complications | No of cases (%) |
|------------------|-----------------|
| Preeclampsia | 4 (3.5%) |
| Eclampsia | 1 (3%) |
| Severe HTN | 1 (3%) |
| No complications | 11 (64%) |

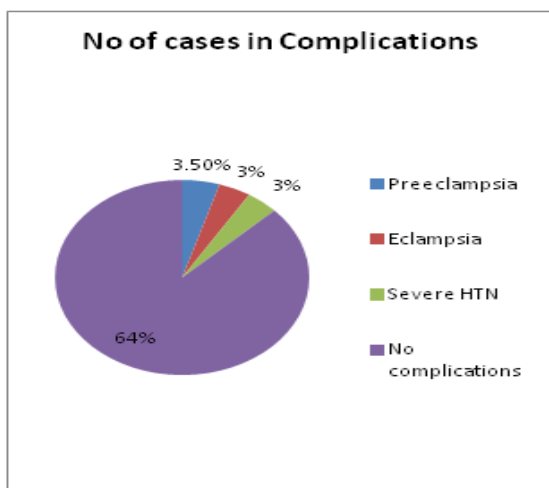
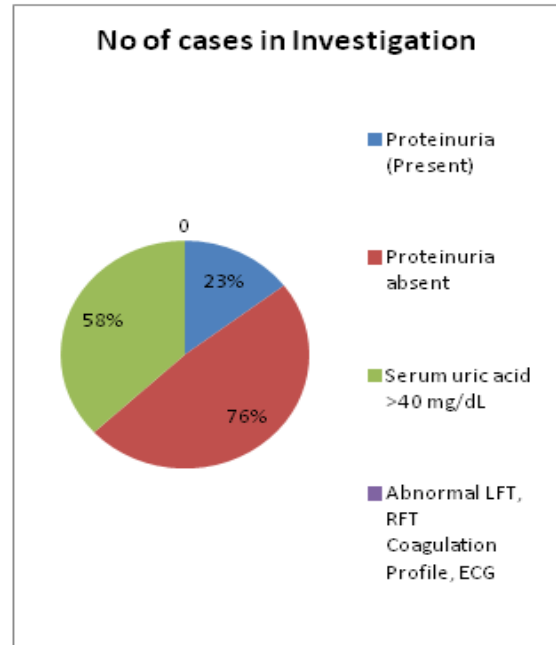


Table 3: Investigations in study population

| Investigation | No. of cases(%) | |
|--|-----------------|----------|
| | Proteinuria | Present |
| | Absent | 13 (76%) |
| Serum uric acid >40 mg/dL | 10 (58%) | |
| Abnormal LFT, RFT Coagulation Profile, ECG | Normal | |



DISCUSSION

Hypertension in pregnancy has long been suspected of heralding an increased risk of high blood pressure in later life. In the population studied, blood pressure of 140/90 mmHg & above was seen in 34 pregnant women. This accounts to an incidence of 8.2%. Hypertensive disorders complicating pregnancies have been reported in 6-8% and may go up to 20%. Proteinuria is seen in only 23.53% and majority of hypertensive women had no proteinuria. This shows that gestational hypertension or pregnancy-induced hypertension is the type of hypertension commonly seen in pregnancy. Pregnancy-induced hypertension and chronic hypertension was responsible for hypertension in 96% and 4% of cases respectively in an Indian study, chronic hypertension is not common. Oedema is seen in up to 80% of normal pregnant women & seen invariably in preeclampsia & eclampsia, pathologic oedema is the first sign of PIH. Excess weight gain (gaining more than 1/2 kg per week of gestation) is the first symptom of pregnancy-induced hypertension. Preeclampsia is seen in 10-15% of primigravidae with hypertension and 5.7-7.3% in multigravidae. Preeclampsia is hence peculiar to pregnancy. Elevated serum uric acid levels more than 4 mg/dL indicate foetal compromise and indicate need to deliver the foetus as early as possible. Serum uric acid level of more than 5.5 mg/dL is consistent with preeclampsia and above 6 indicates serious disease when liver

dysfunction and mild elevation of serum transaminases occurs.

LFT, RFT Blood coagulation profile, ECG were normal in the study population. Ophthalmoscopy showed normal fundus. Retinal vasospasm is a manifestation of severe maternal disease. The study populations with high blood pressures were picked up early, and hence they did not have complications. Incidence of preeclampsia is increased with twins & previous history of eclampsia. Pregnancy-induced hypertension is usually thought to resolve without serious sequelae, but a link to cardiovascular disease in later life was suggested from an early follow-up study of preeclamptic and eclamptic women and from an increased incidence of previous preeclampsia observed in women who had suffered myocardial infarction. Gerdur A et al study showed death rates from ischaemic heart disease are higher in women who had hypertension in pregnancy when compared with the general population, and that this risk might be linked to increasing severity of the disease in pregnancy. Four subsequent studies have since independently indicated a significantly increased risk of myocardial ischaemia and related cardiovascular disease later in life in women who had hypertensive disorder in pregnancy. Pregnancy-induced hypertension may not only be an expression of underlying genotypic and phenotypic hypertensive tendency but has its own adverse and long term effect on the endothelium and the cardiovascular system. Women with preeclampsia or eclampsia should, therefore, receive follow-up and health care advice with regard to lifestyle, nutrition and weight control.

CONCLUSION

Pregnancy-induced hypertension is predominant in Indian pregnant women. In our study, this is confirmed. But study population is small, it requires large population studies to confirm the same. Chronic hypertension is less commonly seen. Blood pressure should be measured in sitting position with cuff at level of heart. Majority of deaths are preventable if pregnancy-induced hypertension is detected and treated early.

REFERENCES

1. Prakash J, Pandey LK, Singh AK. Hypertension in pregnancy. Hospital based study. JAPI 2006;54:273-278.
2. Report of NHBPEP Working group on high blood pressure in pregnancy. Am J Obst & Gynaec 2000;183(1):S1-S22.
3. American College of Obstetrics & Gynecology. Hypertension in pregnancy. AGOG technical bulletin No 219, Washington DC 1996.
4. Sandhya A Kamath. Hypertension in pregnancy. JAPI 2006;54:269-270.
5. Long PA, Oats JN. Preeclampsia in twin pregnancy, severity & pathogenesis. Aust N Z J Obst & Gynaec 1987;27(1):1-5
6. Long PA, Abell DA, Brischer NA. Parity & preeclampsia. Aust N Z J Obst & Gynaec 1979;19:203-206.

7. Yadav S, Saxena V, Yadav P, et al. Hypertensive disorders of pregnancy & maternal fetal outcome — case controlled study. JIMA 1997;95(10):548-551.
8. Pallea MS. Hypertension in pregnancy. Journal of Am Soc Nephrol 1998;9(2):314-321.
9. Helewa ME, Burrows RF, Smith J. Report of the Canadian hypertension society consensus conference: 1. definitions, evaluation and classification of hypertensive disorders in pregnancy. 1997;157(6):715-725.
10. Chesley LC, Annitto JE, Cosgrove RA. The remote prognosis of eclamptic women. sixth periodic report. Am J Obstet Gynecol 1975;124:446-459.
11. Mann JL, Doll R, Thorogood M, et al. Risk factors for myocardial infarction in young women. Br J Prey Soc Med 1976;30(2):94-100.
12. Hannaford P, Ferry S, Hirsch S. Cardiovascular sequelae of toxemia of pregnancy. Heart 1997;77(2):154-158.
13. Jonsdottir LS, Arngrimsson R, Geirsson RT, et al. Death rates from ischemic heart disease in women with a history of hypertension in pregnancy. Acta Obstet Gynecol Scand 1995;74(10):772-776.
14. Smith CS, Pell JP, Walsh D. Pregnancy complications and maternal risk of ischaemic heart disease: a retrospective cohort study of 129,290 birth. Lancet 2001;357(9273):2002-2006.
15. Irgens HU, Reisaeter L, Irgens LM, et al. Long term mortality of mothers and fathers after pre-eclampsia: population based cohort study. BMJ 2001;323(7323):1213-1216.
16. Wilson BJ, Watson MS, Prescott GJ, et al. Hypertensive diseases of pregnancy and risk of hypertension and stroke in later life: results from a cohort study. BMJ 2003;326(7394):845-851.
17. Roberts JM. Endothelial dysfunction in preeclampsia. Semin Reprod Endocrinol 1998;16(1):5-15.
18. Sattar N, Ramsay J, Crawford L, et al. Classic and novel risk factor parameters in women with a history of preeclampsia. Hypertension 2003;42:39-42.
19. Ness RB, Roberts JM. Heterogenous causes constituting the single syndrome of preeclampsia a hypothesis and its implications. Am J Obst & Gynec 1996;175(5):1365-1370.
20. Levine RJ, Maynard SE, Qian C, et al. Circulating angiogenic factors and the risk of preeclampsia. N Engl J Med 2004;350(7):672-683.
21. Svensson A, Andersch B, Hansson L. A clinical follow-up study of 260 women with hypertension in pregnancy. Clin Exp Hypertens B 1983;2(1):95-102.
22. Sibai BM, El-Nazer A, Gonzalez-Ruiz A. Severe preeclampsia-eclampsia in young primigravidae women: subsequent pregnancy out come and remote prognosis. Am J Obst & Gynec 1986;155(5):1011-1016.
23. Gerdur A Arnadottir, Reynir T Geirsson, Reynir Arngrimsson, et al. Cardiovascular death in women who had hypertension in pregnancy: a case control study. International Journal of Obstetrics and Gynecology 2005;112(3):286-292.

How to cite this article: Elyas M, Pavan KS, Srinivas. Prevalence of Hypertension in Pregnancy in Rural South India. Ann. Int. Med. Den. Res. 2018; 4(5):ME15-ME18.

Source of Support: Nil, **Conflict of Interest:** Nil.