MATERNAL OUTCOME IN PREGNANCY INDUCED HYPERTENSION IN A TEACHING HOSPITAL IN A RURAL AREA IN TELANGANA

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ABSTRACT

AIM

To analyse the maternal outcome in pregnancy induced hypertension and improve the management strategies.

INTRODUCTION

Pregnancy induced hypertension is a medical disease peculiar to pregnancy, making pregnancy a high risk condition. Among medical disorders complicating pregnancy, it stands next to anaemia in prevalence. It is responsible for majority of the maternal morbidity and mortality. It also has an adverse perinatal outcome. Hence, early detection and timely intervention of women with pregnancy induced hypertension is important for good maternal and perinatal outcome.

MATERIAL & METHODS

The present Prospective Observational study was done from April 2015 to February 2016 in the department of obstetrics & gynaecology at Bhaskar medical college and general hospital, Yenkepally, Moinabad, Telangana. A total of 102 pregnant women with pregnancy induced hypertension were enrolled into the study. Demographic details like age, parity, previous obstetric history of pregnancy induced hypertension and diabetes, past history of polycystic ovarian disease, treatment for infertility, gestational age at which hypertension developed in the present pregnancy were noted. Relevant investigations were performed. Gestational age of delivery, mode of delivery and maternal complications were noted.

RESULTS

The incidence of pregnancy induced hypertension was 4% in the study population. About 59.8% developed pregnancy induced hypertension in the third trimester. Out of this, 64.7% cases were gestational hypertension and 35.3% cases were preeclampsia. Nearly half (41.7%) of preeclampsia cases were severe preeclampsia. Postpartum haemorrhage is the commonest complication (13.7%), next being imminent eclampsia (7.8%), abruption (4.9%), eclampsia (3.9%) and HELLP syndrome (0.98%). 80% of cases could be delivered beyond 37 weeks of gestational age. 71.57% of cases had lower segment caesarean section for indicated conditions. More than half of pregnancy induced hypertension could be managed conservatively with bed rest and observation. Remaining cases required antihypertensives for severe preeclampsia.

CONCLUSION

Pregnancy induced hypertension is the common medical disease in pregnancy in the rural pregnant women in India especially among primigravidae in the third trimester. Preeclampsia is associated with maternal complications like postpartum haemorrhage, imminent eclampsia and eclampsia, abruptio placenta. Abruptio and eclampsia are associated with adverse perinatal outcome. Regular antenatal checkups helps in early detection and management of pregnancy induced hypertension. Timely intervention can prevent maternal mortality and reduce morbidity.

KEYWORDS

Pregnancy induced hypertension, Management, Maternal complications.

HOW TO CITE THIS ARTICLE: Kavitha Reddy K. Maternal outcome in pregnancy induced hypertension in a teaching hospital in a rural area in Telangana. J. Evid. Based Med. Healthc. 2016; 3(77), 4171-4174. DOI: 10.18410/jebmh/2016/890

INTRODUCTION: According to American College of Obstetrics and Gynaecology, pregnancy induced hypertension is defined as blood pressure recording of more than 140/90 mm Hg developing beyond 20 weeks of gestation with or without proteinuria and oedema and disappearing within 6 weeks postpartum.[1,2] Preeclampsia is pregnancy induced hypertension along with proteinuria and oedema.[1,2] In India, pregnancy induced hypertension is the common medical disorder in pregnancy in rural pregnant women, next to anaemia.[3] Along with haemorrhage and infection, it forms the deadly triad causing maternal mortality.[3,4] Most of the maternal mortality and morbidity is due to complications like postpartum haemorrhage, imminent eclampsia and eclampsia, abruptio placenta, HELLP syndrome, disseminated intravascular coagulation, renal failure, deep vein thrombosis and pulmonary embolism.

Financial or Other, Competing Interest: None.
Submission 22-08-2016, Peer Review 02-09-2016,
Acceptance 15-09-2016, Published 24-09-2016.
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DOI: 10.18410/jebmh/2016/890

Severe preeclampsia and eclampsia account for 10-15% of maternal deaths.[1] Hence present study was conducted to analyse the incidence, risk factors and maternal complications of pregnancy induced hypertension in rural population for better management of cases.

OBJECTIVES:

1. To determine the risk factors for development of pregnancy induced hypertension.
2. To formulate a protocol for early detection and maternal surveillance.
3. To analyse the morbidity and mortality among pregnant women with hypertension.

MATERIAL AND METHODS: The present prospective observational study was done from April 2015 to February 2016 in the department of obstetrics & gynaecology at Bhaskar Medical College and General Hospital, Yenkepally, Moinabad, Telangana after approval of the ethics committee and with patients consent. A total of 102 pregnant women with pregnancy induced hypertension of 140/90 mm Hg and above were enrolled into the study. Demographic details like age, parity, previous obstetric history of pregnancy induced hypertension and diabetes, risk factors like polycystic ovarian disease, treatment for infertility, twins, hypothyroidism, gestational age at which hypertension developed in the present pregnancy were noted. Relevant investigations like complete urine examination for albumin, sugar and pus cells, complete blood picture, screening blood sugar, renal function tests, liver function tests, bleeding time, clotting time, platelet count, serum T3, T4 & Thyroid stimulating hormone, ultrasound, non-stress test were performed. Maternal blood pressure monitoring and fetal surveillance were done and results noted. All cases were followed through delivery up to 1 week-10 days postpartum. Gestational age of delivery, mode of delivery and maternal complications were noted.

RESULTS: Data was analysed and tabulated as follows.

Sl. No.	Age Group	No. of Cases	%
1.	<20 yrs.	28	27.4%
2.	21-34 yrs.	71	69.6%
3.	>35 yrs.	3	2.9%

Table 1: Based on Age (n=102)

Sl. No.	Age Group	No. of Cases	%
1.	Primi	56	55%
2.	Second gravida	37	36.2%
3.	Multigravida	9	8.8%

Table 2: Based on Gravida (n=102)

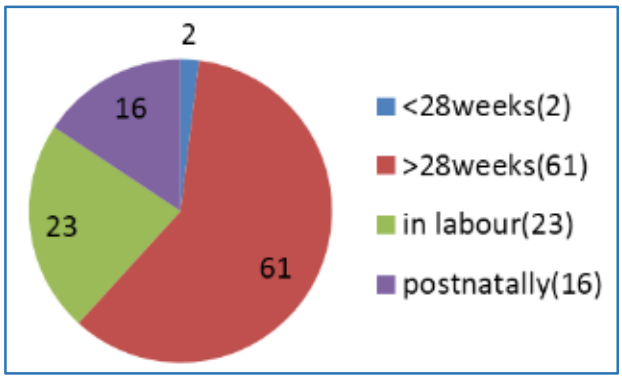

Chart 1: Gestational Age at which PIH Developed (n=102)

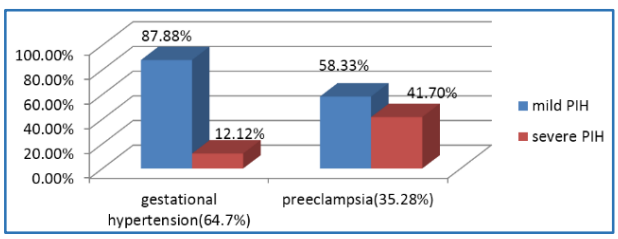

Chart 2: Based on Type and Severity of Pregnancy Induced Hypertension (n=102)

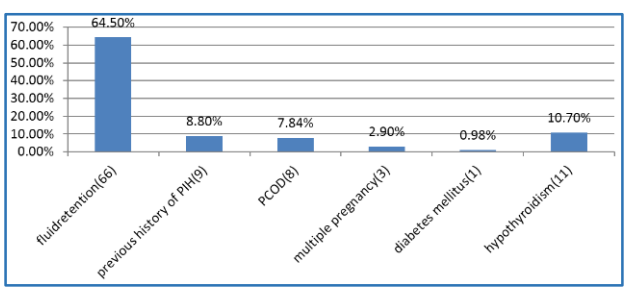

Chart 3: Presence of Risk Factors (n=102)

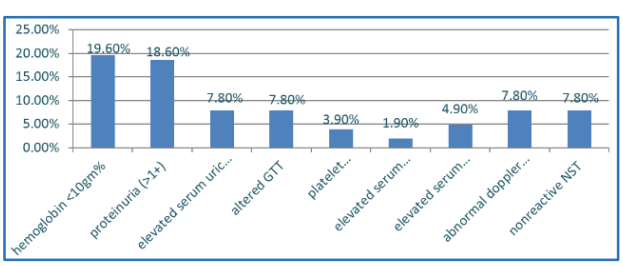

Chart 4: Based on Abnormalities in Investigations (n=102)

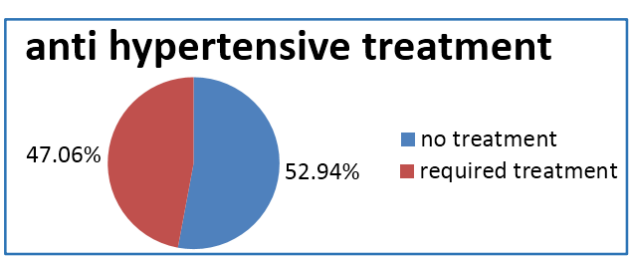

Chart 5: Need for Antihypertensives (n=102)

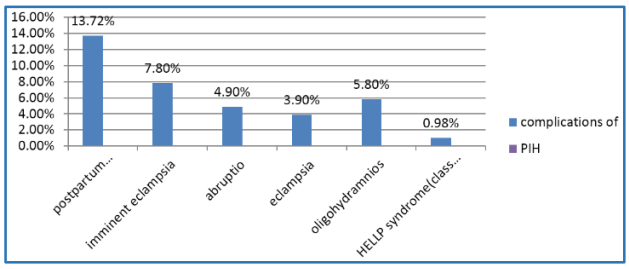

Chart 6: Complications of PIH (n=102)

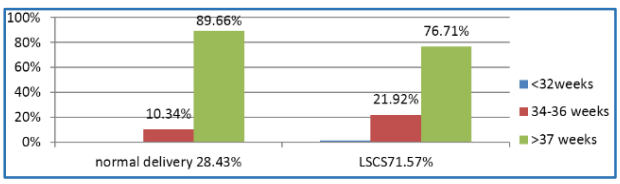

Chart 7: Gestational Age and Mode of Delivery (n=102)

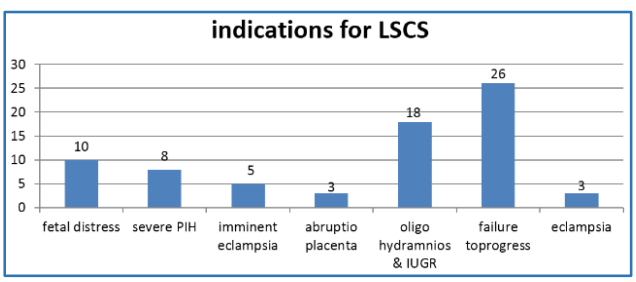

Chart 8: Indications for LSCS (n=102)

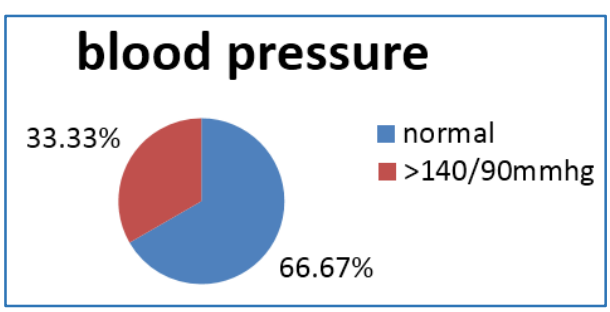

Chart 9: Postnatal Persistence of PIH (Beyond 1 week post-delivery) (n=102)

DISCUSSION: Present study shows that the incidence of pregnancy induced hypertension is 4% in the study population consistent with existing statistics of 3-9%.[4] Majority (69.6%) of cases are in the age group of 21-34 years in par with 77.14% in a previous study by Shikha Saxena et al[1] Incidence is more in primigravidae (55%) similar to a study by Shika Saxena et al (57.14%).[1] Literature also shows that pregnancy induced hypertension is 4 times higher in primis than multis.[1] We see that majority (64.71%) of pregnancy induced hypertension cases are gestational hypertension while preeclampsia is seen in 35.28% cases. Severe preeclampsia is seen in 41.66% while mild preeclampsia in 58.33% as against 47.61% & 17.94% respectively in a previous study.[5] In the present study, mild preeclampsia is commoner than severe preeclampsia because early diagnosis could avert progression of mild to severe preeclampsia. More than half of the cases (59.80%) had pregnancy induced hypertension in the last trimester in the present study.

Development of pregnancy induced hypertension is more common in third trimester, nearly 90.5% in a previous study.[6] High blood pressure was recorded in the postnatal period in 15.6% of cases with previous normal blood pressure in the antenatal period. It could be due to transient physiological rise in postnatal period in pregnancy. These cases might have had a predilection for developing pregnancy induced hypertension. Fluid retention in the form of pedal oedema, facial puffiness & anasarca (Seen in 64.5%), previous history of pregnancy induced hypertension (Seen in 8.8%), twins (2.9%), polycystic ovarian disease (7.84%) and hypothyroidism (Seen in 10.8%) are independent risk factors for pregnancy induced hypertension. These observations are in consistence with previous studies on pregnancy induced hypertension which showed that swelling of feet and face was observed in 47.2% cases.[6] Elevated serum thyroid stimulating hormone was associated with preeclampsia in 7.22% of cases in a study by Manjunatha S. et al[2]

There is a triple risk of pregnancy induced hypertension in twins and seven times increased risk of preeclampsia in cases of previous history of pregnancy induced hypertension according to Vidyadhar B et al[5] Hence, previous history of preeclampsia is a good predictor of recurrent preeclampsia and sensitivity increases when it is combined with midtrimester uterine artery Doppler.[7] Kiran Yadav et al observed that insulin resistance and hyperuricemia are present in preeclampsia[8]. Hence in the present study also, there is insulin resistance in the form of polycystic ovarian disease (7.84%) and altered glucose tolerance (7.8%). 53% of studied cases of pregnancy induced hypertension did not require treatment with antihypertensives but 47% of cases required treatment with antihypertensives. Literature also states that expectant management can be followed in cases of mild pregnancy induced hypertension.[9,10]

Even in cases of severe preeclampsia remote from term, if there are no maternal or foetal complications, there is a place for expectant management.[9,10] In our study, postpartum haemorrhage is the common complication (13.72%) followed by imminent eclampsia (7.8%). Eclampsia is seen in 3.9% as against 6.3% of eclampsia.[11] Abruptio placenta is seen in 4.9% of cases as against 7.5% in previous studies.[10] Oligohydramnios is seen in 5.8% in the present study. Class III HELLP syndrome in less than 1% of cases consistent with 0.3% in another study.[10] No maternal mortality was noted in the present study though maternal mortality of 8-14% was reported in pregnancy induced hypertension in other studies.[8] Majority of cases could be terminated after 37 weeks. Caesarean section was done in 71.57% of cases and normal delivery in 28.43% as against 65.6% of LSCS and 34.4% in a study by Nankali et al[10] Higher incidence of caesarean section in the study was attributed to the need for immediate delivery of the foetus in majority of cases. Mild preeclampsia cases can be allowed for induction of labour.[11] There is strong recommendation for immediate and quick pregnancy termination in severe preeclampsia at term to minimise maternal and fetal complications.[11,12,13]

Frequent indication for caesarean was foetal distress, abnormal Doppler and nonreactive nonstress test similar to a study by Juhi et al[13] Postnatal persistence of pregnancy induced hypertension up to 10 days was seen in 33.33% of cases in the present study. Hence, continuation of antihypertensives in the postpartum period is recommended, especially in cases of severe preeclampsia in the antenatal period.[11]

CONCLUSION: Pregnancy induced hypertension is not only difficult to prevent but also difficult to predict before pregnancy. Fluid retention, previous history of pregnancy induced hypertension, twins, polycystic ovarian disease, altered glucose tolerance and hypothyroidism are independent risk factors for pregnancy induced hypertension. Screening of every pregnant woman for these risk factors combined with midtrimester uterine artery Doppler can help in early detection of pregnancy induced hypertension. Hospitalisation of severe pregnancy induced hypertension, maternal surveillance through relevant investigations, careful blood pressure monitoring, close foetal surveillance can allow continuation of pregnancy till term with minimal or no maternal complications and good perinatal outcome. Timely intervention in the form of immediate pregnancy termination through elective induction in mild cases & caesarean section in severe preeclampsia minimises maternal morbidity and maternal mortality.

REFERENCES

1. Saxena S, Srivastava PC, Thimmaraju KV, et al. Socio-demographic profile of pregnancy induced hypertension in a tertiary care centre. Scholarly Journal of Applied Medical Sciences 2014;2(6D):3081-3086.
2. Manjunatha S, Basavaraja GN, Patel RS. Thyroid dysfunction in pregnancy and preeclampsia. Scholarly Journal of Medical Sciences 2014;2(6F):3297-3299.
3. Jye CJ. Challenges of obstetrician in the management of severe preeclampsia. Obs & Gynae Today 2009;16(8):348-351.
4. Cunningham FG, Leveno KJ, Bloom SL, et al. Pregnancy induced hypertension incidence. In: Kenneth J, ed. Williams obstetrics. 23rd edn. New York: McGraw Hill 2010:706-756.
5. Bangal VB, Giri PA, Mahajan AS. Maternal and fetal outcome in pregnancy induced hypertension: a study from rural tertiary care teaching hospital in India. International Journal of Biomedical Research 2011;2(12):595-599.
6. Borade PV, Haralkar S, Wadagale AV. Hypertensive disorders of pregnancy: an ongoing holocaust. National Journal of Community Medicine 2014;5(1):61-65.
7. Prajapati SR, Maitra N. Prediction of preeclampsia by combination of maternal history, uterine artery doppler and mean arterial pressure- a prospective study. J Obstetrics Gynaecol of India 2013;63(1):32-36.
8. Yadav K, Agarwal S, Verma K. Serum β HCG & lipid profile in early II trimester as predictor of pregnancy induced hypertension. J Obstet and Gynaecol India 2014;64(3):169-174.
9. ACOG, practice Bulletin No. 33: Diagnosis and management of preeclampsia and eclampsia. Obstetrics and Gynaecology 2002;99(1):159-167.
10. WHO recommendations for prevention and treatment of pre-eclampsia and eclampsia. Geneva: World Health Organization 2011.
11. Nankali A, Sh Malek-Khosravi, Zangeneh M, et al. Maternal complications associated with severe preeclampsia. J Obstetrics Gynaecol of India 2013;63(2):112-115.
12. Walker JJ, Gant NF. Hypertension in pregnancy. 1st edn. Chapman and Hall Medical 1997.
13. Patel J, Desai N, Mehta ST. Study of fetomaternal outcome in cases of preeclampsia. International Journal of Scientific Research 2015;4(7):503-505.