



ORIGINAL ARTICLE

Induction of labor versus expectant management of patients with gestational hypertension at term.

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Article Citation: Bakhsh FM, Gul K, Bibi S, Gul P. Induction of labor versus expectant management of patients with gestational hypertension at term. Professional Med J 2022; 29(1):57-61. <https://doi.org/10.29309/TPMJ/2022.29.01.6237>

ABSTRACT... Objective: To compare maternal morbidity in planned induction of labour versus expectant management in women with gestational hypertension at term. **Study Design:** Randomized Clinical Trial. **Setting:** Department of Obstetrics and Gynecology, Bolan Medical Complex Hospital Quetta. **Period:** January 2017 to December 2017. **Material & Methods:** 240 pregnant women with the diagnosis of gestational hypertension with systolic blood pressure ≥ 140 mmHg and/or diastolic blood pressure ≥ 90 mmHg without proteinuria were included. Patients were equally divided into two groups; group A (the intervention group) and group B (the expectant group). In group A, cervical ripening was stimulated with use of intravaginal prostaglandins. In group B, patients were monitored until the onset of spontaneous Labour. In both groups intervention was recommended in case of non-optimal FHR, the diastolic blood pressure ≥ 110 mmHg or the systolic blood pressure ≥ 170 mmHg and eclampsia. **Results:** Out of 120 deliveries, 87 (72.5%) delivered by vaginal and 33 (27.5%) by caesarean section in group A. While in group B, out of 120 deliveries, 66 (55%) delivered by vaginal and 54 (45%) by caesarean section. The frequency of maternal outcome like mild preeclampsia present in 15% and 40% of women in group A and in group B respectively. Severe preeclampsia was noted 7.5% and 22.5% in group A and in group B respectively. Seizures were found in 2.5% of women in group A and 10% of women in group B. **Conclusion:** Complications like mild and severe preeclampsia and eclampsia could be prevented by induction of labour at term and also by widespread use of prenatal care education, prompt diagnosis and treatment of gestational hypertension.

Key words: Expectant Management, Gestational Hypertension, Gestational Age, Induction of Labour.

INTRODUCTION

Pregnancy induced hypertension is a complications of pregnancy and it complicates around 12-22% of all pregnancies.¹ Gestational hypertension is defined as systolic blood pressure ≥ 140 mmHg and/or a diastolic blood pressure ≥ 90 mmHg, more than two times greater than six hours apart in the absence of proteinuria in a previously normotensive pregnant woman at or after 20 weeks of gestation.²

Preeclampsia will progress in to 15 to 25 percent of pregnant women initially diagnosed with gestational hypertension; the risk is associated inversely with gestational age (i.e. higher risk of progression to preeclampsia when gestational hypertension is diagnosed at earlier gestational

ages).^{3,4} It causes serious complications to mother and fetus Maternal and fetal problems such as eclampsia, abruption placentae, preterm delivery, the Hemolysis Elevated Liver enzymes and Low Platelet count syndrome (HELLP), fetal growth restriction or even intra-uterine fetal demise may ensue. Majority of these cases happen after 32 weeks of pregnancy. The delivery is the only treatment in worsening disease.⁵

Induction of labor leads to iatrogenic stimulation of uterine contractions to accomplish delivery prior to the onset of spontaneous labor.⁶ One of the most significant factor for predicting the probability of effectively inducing labor is cervical status. The modified Bishop score is the system most commonly used in clinical practice in

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Article received on: 21/11/2020
Accepted for publication: 12/06/2021

the United States.⁷ If the Bishop score is high variously defined as ≥ 5 or ≥ 8 , the probability of vaginal delivery is comparable and high whether labor is spontaneous or induced.⁸

Cervical ripening is a complex procedure that results in physical softening and dispensability of the cervix; eventually leading to cervical effacement, dilatation and delivery of the fetus.⁹ These changes are induced by hormones like estrogen, progesterone, relaxin, as well as prostaglandin, cytokines and nitric oxide synthesis enzymes.¹⁰ Vaginal or endocervical administration of prostaglandins come to be the favored route of administration because the occurrence of side effects could be abridged, while sustaining an satisfactory clinical response which is needed.¹¹

The aim of this study was to investigate whether planned induction of labour in women with pregnancy induced hypertension at term will reduce maternal morbidity. We can reduce difficulties and problems associated with gestational hypertension like preeclampsia, eclampsia and HELLP syndrome by antenatal care, close follow up and Induction of labour at term.

MATERIAL & METHODS

Two hundred forty pregnant women, who met the selection criteria were admitted in Obstetrics and Gynaecology department of Bolan Medical Complex Hospital Quetta with the diagnosis of pregnancy induced hypertension during the one year study period (Jan 2017 to Dec 2017) consecutively. Patients with gestational age of 37-40 weeks diagnosed on ultrasound before 20 weeks of gestation were considered for enrolment in the study. Patients with preterm pregnancy were not included in the study. All Patients were divided into two groups by using random table. Group A labelled as the intervention group and Group B labelled as the expectant group.

In the intervention group, gestational age of 37-40 week, cervical ripening was started with use of intravaginal prostaglandins. Patients with a Bishop score of >6 at vaginal examination, labour

was induced by amniotomy and, augmentation with oxytocin was done if required. In case delivery not occurs after a minimum of 8-12 hours of oxytocin administration and amniotomy then cesarean section was done. In the expectant group, patients were monitored while waiting for the onset of natural labour. If no labour at 40 weeks, again induction of labour, cesarean or expectant management discussed with patient, in case the pregnancy was going smooth with no complications. All patients in group B delivered before 42 weeks. Fetal assessment was done through electronic fetal heart rate (FHR) monitoring. Maternal evaluation by everyday blood pressure measurement and screening of urine for protein using a urine dipstick technique.

In both groups interference was done in case of non-optimal FHR-monitoring, the diastolic blood pressure of ≥ 110 mmHg or the systolic blood pressure of ≥ 170 mmHg, prelabour rupture of membranes for >24 hours, meconium stained liquor and eclampsia.

Statistical analysis was conducted by SPSS version 10. Comparison between the groups with respect to mode of delivery (cesarean or vaginal), and maternal complication like mild preeclampsia, severe preeclampsia and eclampsia were analyzed by Chi-square. P value <0.05 considered statistically significant. The study was approved by ethical committee (BRF-19).

RESULTS

A total number of two hundred and forty pregnant women were included in this study, admitted in Obstetrics and Gynaecology Department, Bolan Medical Complex Hospital Quetta. Patients were divided into two equal groups; Group A (intervention group) and group B (expectant group).

Out of 120 deliveries, 87 (72.5%) patients delivered by vaginal and 33 (27.5%) by caesarean section in group A. While in group B, out of 120 deliveries, 66 (55%) patients delivered by vaginal and 54 (45%) by caesarean section (Table-I). There were no fetal intrauterine or neonatal deaths in group A. There were two neonatal deaths in group B but

that were not associated to maternal condition.

When compared the vaginal deliveries among two groups, 87 deliveries in group A and 66 deliveries in group B, 33 women had cesarean section in group A and 54 patients in group B.

The frequency of maternal outcome like mild preeclampsia was detected in 18 women in group

A and 48 in group B. Severe preeclampsia was noted in 9 women in group A and 27 in group B. Seizures was found in 3 women in group A and 12 in group B (Table-II).

The comparison between the blood pressure >140/90 and proteinuria on dipstick +1 showed the statistically difference was significant in mild preeclampsia. Table-II

Mode of Delivery	Group A (n=120)		Group B (n=120)		Total (n=240)		Chi Square Test	P-Value
	No.	%	No.	%	No.	%		
Vaginal	87	72.5	66	55.0	153	63.75	2.65	<0.05
Cesarean	33	27.5	54	45.0	87	36.25	2.87	<0.05

Table-I. Comparison of mode of delivery in both groups.

Maternal Outcome	Group A (n=120)		Group B (n=120)		Total (n=240)		Chi Square Test	P-Value
	No.	%	No.	%	No.	%		
Mild Preeclampsia								
Blood Pressure > 140/90	18	15.0	48	40.0	66	55.0	6.27	<0.05
Proteinuria on dipstick +1	18	15.0	48	40.0	66	55.0	6.27	<0.05
Severe Preeclampsia								
Blood Pressure >170/110	9	7.5	27	22.5	36	30.0	3.52	<0.05
Proteinuria on dipstick +3	9	7.5	27	22.5	36	30.0	3.52	<0.05
Eclampsia	3	2.5	12	10	15	6.25	3.84	<0.05

Table-II. Comparison of mode of maternal outcome in both groups.

DISCUSSION

Gestational hypertension or pregnancy induced hypertension and preeclampsia are all common disorders through pregnancy, with the majority of cases emerging at or near term. The development of mild preeclampsia at or near term is linked with maternal and neonatal morbidities and mortalities.²

The only causal treatment of pregnancy induced hypertension and preeclampsia, is delivery. In contrast, there is no consensus on how to manage mild hypertensive disease in pregnancies at term. Induction of labour might avoid maternal and neonatal complications or mortality at the cost of increased instrumental vaginal delivery rates and caesarean section rates.^{12,13}

In this study, the occurrence of maternal outcome of raised blood pressure and proteinuria of mild

preeclampsia in 15% and 40% women in group A and in group B respectively. The raised blood pressure and proteinuria of severe preeclampsia was eminent in 22.5% and Seizures (eclampsia) was found in 10% of women in group B with expectant management. The percentage of the severe preeclampsia and eclampsia in this study is equal with that study seen by Yücesoy et al¹⁴ in Turkey of 255 cases, 138 patients (54.11%) were found to have severe preeclampsia while 88 cases (34.50%) were diagnosed as mild preeclampsia 28 cases (11%) had eclamptic convulsion.

The severe preeclampsia was noted in 7.5% and Seizures (eclampsia) was found in 2.5% of women in group A with induction of labour in this study which is comparable with Koopmans et al¹² studied induction of labour in gestational hypertension in women with a singleton pregnancy in cephalic presentation at term (>36

weeks), the prevalence of such problems in 2003 and 2004 was 12% reduced to 6%.

The severe preeclampsia was noted 22.5% and Seizures (eclampsia) was found in 10% of women in group B (patients with expectant management). Which is comparable to study that was completed at Combined Military Hospital Attock in 2005 by Jeharan et al.¹⁵ Similar occurrence was also reported by Muti M et al(19.4%)¹⁶ and Khosravi et al.¹⁷

Yücesoy et al¹⁴ shows in a study of pregnant hypertensive patients that the delivery route was vaginal in 41.2% while 58.8% patients underwent cesarean section appeared to be the lowest 48.3% in chronic hypertensive women while the highest 63.8% in severe preeclamptic patients. In the present study in group B (patients with expectant management), out of 120 deliveries, 66 (55%) patients delivered by vaginal rout and 54 (45%) by caesarean section. caesarean section rate was higher in expectant group which correlates with studies mentioned above.

In the existing study, out of 120 deliveries, 87 (72.5%) patients delivered by vaginal and 33 (27.5%) by caesarean section in induced patients (group A). One more study done in the Departments of Obstetrics and Gynecology, Brigham and Women's Hospital; Center for Risk Analysis, Harvard School of Public Health; shows Induced nulliparas patients had a 24.7% cesarean delivery rate, compared with a 13.7% cesarean delivery rate among naturally occurring labour nulliparas.¹⁸

Pregnancy induced hypertension not only puts the mother health in jeopardy but is also accountable for grave fetal outcome. Therefore timely intervention plays an important role in satisfactory maternal and fetal outcome in patients with gestational hypertension.^{19,20}

CONCLUSION

Gestational hypertension or pregnancy induced hypertension is a common entity in our setup. The complication of gestational hypertension can be prevented by early detection and treatment

of hypertension and induction of labour at term which will almost always prevent the forthcoming hazard to mother and fetus. Establishment of obstetric care service at every level of health care facility, prompt diagnosis of high risk patients and timely referral to tertiary care center can expressively diminish the maternal morbidity and mortality.




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