



INDUCTION OF LABOUR;

COMPARISON OF OUTCOME OF PLANNED INDUCTION VERSUS EXPECTANT MANAGEMENT IN GESTATIONAL HYPERTENSION BETWEEN 36 TO 40 WEEKS

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ABSTRACT... Objectives: To compare maternal outcome in planned induction of labor versus expectant management in pregnancy induced hypertension between 36 to 40 weeks of gestation. **Study Design:** Randomized controlled trial. **Setting:** Obstetrics and Gynecology Unit II of Nishtar Hospital Multan. **Period:** January 2016 to July 2016. **Materials and Methods:** One hundred and thirty six (136) women with diagnosis of mild pregnancy induced hypertension, having gestational age 36 to 40 weeks were selected for this study. The selected patients were allocated randomly into two equal groups i.e. Group A (Induction group) & Group B (Expectant group). The primary outcomes of this study were rate of cesarean section delivery and development of severe pre-eclampsia. Independent sample t-test was used to compare age between the groups. Chi-square test was used to compare age groups and study endpoints between the groups. **Results:** Mean gestational age at the time of delivery was 38.3 ± 0.75 weeks for group A and 39.2 ± 0.55 weeks for group B (P-value >0.05). Mode of delivery was 52 (76.47%) patients by vaginal and 16 (23.53%) by caesarean section in group A. While in group B, out of 68 deliveries, 40 (58.82%) patients delivered by vaginal and 28 (41.18%) by caesarean section (p-value <0.05). Regarding maternal outcomes, severe pre-eclampsia occurred in 05 (7.35%) women of group A while in group B, it was noted 15 (22.05%) women (p-value <0.05). The final outcome was considered satisfactory in 76.47% patients in Induction group regarding vaginal delivery and severe pre-eclampsia while in Expectant group satisfactory outcomes were achieved in only 23.53% women (p-value <0.05). **Conclusion:** Induction of labour is associated with improved maternal outcome in terms of caesarean section and pre-eclampsia in women with mild PIH beyond 36 weeks of gestation as compared to the expectant management.

Key words: Gestational hypertension, induction of labour, expectant management.

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INTRODUCTION

Pregnancy induced hypertension is an important pregnancy disorder and is associated with worse pregnancy outcomes.^{1,2} It complicates about 12 to 24% of all pregnancies.³ In many cases, it is presented as mild hypertension and mild proteinuria at term. In some rare cases severe complications occur e.g. eclampsia, preterm delivery, elevation in liver enzymes, low platelet count syndrome or even fetal death.¹

The usual presentation is often after 32 week of pregnancy. Faulty implantation of placenta is considered to be the main cause of hypertensive disorders so immediate delivery is the only treatment of this disorder. Because during

delivery placenta is removed and signs and symptoms of pregnancy induced hypertension also disappear with removal of placenta.⁴ The exact timing of induction is still debatable because early induction can increase the risk of caesarean sections and might deteriorate neonatal outcomes. According to HYPITAT-I trial, induction of labor at 37 weeks of pregnancy prevent the progression of hypertension and also reduces the number of caesarean sections.⁵ Induction of labour is cost effective and associated with better neonatal outcomes.^{6,7} There is little data available for the management of mild pregnancy induced hypertension from Pakistan. So this study was conducted to compare maternal outcome in planned induction of labor versus expectant

management in pregnancy induced hypertension between 36 to 40 weeks of gestation.

MATERIALS AND METHODS

This Randomized controlled trial was directed in Obstetrics and Gynecology unit II of Nishtar Hospital Multan. One hundred and thirty six (136) women with diagnosis of mild pregnancy induced hypertension were selected for this study. The study duration was from January 2016 to July 2016. Women having age 20 to 35 years at the time of presentation, having gestational age 36 to 40 weeks, primi gravida with singleton pregnancy, and having Bishops score >6 on vaginal examination were included. Women with diagnosis of pre-eclampsia i.e. those having systolic blood pressure ≥ 170 mmHg and diastolic blood pressure ≥ 110 mmHg at the time of presentation and those with diagnosis of diabetes mellitus along with pregnancy induced hypertension were excluded from this study.

The selected patients were located randomly into two groups i.e. Group A (Induction group) & Group B (Expectant group), by using lottery method. In the Group A (Induction group), cervical ripening was stimulated with use of intracervical or intravaginal prostaglandins. Labour was induced by amniotomy and, if needed, augmentation with oxytocin was done. If delivery not occurs after a minimum of 8-12 hours of oxytocin administration and amniotomy then cesarean section was performed. While in Group B (Expectant group), patients were monitored until the onset of spontaneous delivery. Monitoring was consisted of assessment of fetal movements through electronic fetal heart rate (FHR) monitoring according to the local protocol. Maternal evaluation was done by frequent evaluation of blood pressure measurements and screening of urine for protein using a urine dipstick method.

The primary outcomes of this study were rate of cesarean section delivery and development of severe pre-eclampsia. The primary outcomes were considered satisfactory if patient had vaginal delivery and she did not develop severe preeclampsia and was considered unsatisfactory

if patient had Caesarean section and she developed severe preeclampsia.

Sever pre-eclampsia was defined as blood pressure of patient approaching $>160/110$ mmHg with proteinuria exceeding 3+ dipstick.

Data analysis was done using SPSS V19. Independent sample t-test was used to compare age between the groups. Chi-square test was used to compare age groups and study endpoints between the groups. P-value <0.05 was used to present significant difference.

RESULTS

One hundred and thirty six patients were included in this study, there were 68 patients in each group. The mean age of women in group A was 23 ± 4.35 and in group B was 24 ± 3.95 years (P-value >0.05). Majority of the patients 53.68% were between 20 to 25 years of age. Mean gestational age at the time of delivery was 38.3 ± 0.75 weeks for group A and 39.2 ± 0.55 weeks for group B (P-value >0.05).

Mode of delivery was 52 (76.47%) patients by vaginal and 16 (23.53%) by caesarean section in group A. While in group B, out of 68 deliveries, 40 (58.82%) patients delivered by vaginal and 28 (41.18%) by caesarean section. Comparison of both groups on mode of delivery was statistically significant with p-value < 0.05 .

Regarding maternal outcomes, severe pre-eclampsia occurred in 05 (7.35%) women of group A while in group B, it was noted 15 (22.05%) women (p-value <0.05). Seizures occurred in 2 (2.94%) woman in group A and 5 (7.35%) women in group B.

The final outcome was considered satisfactory in 76.47% patients in Induction group regarding vaginal delivery and severe pre-eclampsia while in Expectant group satisfactory outcomes were achieved in only 23.53% women (p-value <0.05).

Name of Variable	Group A	Group B	P-value
Mean Age (Y)	23 ± 4.35	24 ± 3.95	> 0.05
Distribution of Age			
20-25 Years	38 (55.88)	35 (51.47)	> 0.05
26-30 Years	21 (30.88)	23 (33.82)	
31-35 Years	09 (13.24)	10 (14.71)	

Table-I. Comparison of Age between the Groups.

Name of Variable	Group A	Group B	P-value
Mode of Delivery			
Vaginal	52 (76.47)	40 (58.88)	<0.05
Caesarean	16 (23.53)	28 (41.18)	
Maternal Outcomes			
Severe Pre-eclampsia	5 (7.35)	15 (22.05)	<0.05
Final Outcomes Satisfaction			
Yes	52 (76.47)	40 (58.82)	<0.05
No	16 (23.53)	28 (41.18)	

Table-II. Comparison of Study Endpoints.

DISCUSSION

Pregnancy induced hypertension (PIH) is one of the major causes of maternal mortality and morbidity in developing and developed countries.⁸ Pregnancy induced hypertensive disorders are responsible for 16.1% of all maternal deaths in developing countries and 9.1% in developed countries.⁸ In Pakistan about 75.0% population is residing in rural areas where there is lack of antenatal monitoring facilities. Even in developed cities only 50.0% women have antenatal care and hospital delivery.⁹

Induction of labour and expectant conservative management are two routinely used modalities for the management of pregnancy induced hypertension at term. But data regarding the efficacy of these two methods is scarce.⁵ Induction of labour can prevent against the development of severe pre-eclampsia, birth asphyxia and maternal death but the risk of instrumental delivery or caesarean section might increase with this method.^{10,11} Many studies have favored induction and have concluded that it is associated with fewer caesarean rates.^{12,13} In this study we compared the induction of labour with expectant management of labour in women with mild PIH.

The mean age of patients in our study was 23±4.35

years in group A and 24±3.95 years in group B. Majority of the patients 53.68% were between 20 to 25 years of age in both groups. These results were very much comparable with Gondal KM et al¹⁴ study who had a mean age of 20 years but much lower than study of Koopmans CM et al⁵ who had a mean age of 30 and 31 years in group A & B respectively. So, the results of this study had shown the increase risk of pregnancy induced hypertension in younger primigravida females.

In our study, Mean gestational age at the time of delivery was 38.3±0.75 weeks in induction group and 39.2±0.55 weeks in expectant group which is very much comparable to study of Koopmans CM et al⁵ who had found this as 38.7 weeks and 39.9 weeks respectively.

Some studies have clearly concluded that induction of labour at term does not upsurge emergency Caesarean section rates and intrapartum deaths. In large multi-centre trails by Gulmezoglu AM et al¹⁵ and Hannah ME et al¹⁶ policy of induction of labour did not increased the rate of caesarean section. Koopmans CM et al⁵ concluded that the rate of Caesarean delivery is reduced with elective induction of labour as compared to the expectant management. In our study, 23.53% patients were delivered by caesarean section in induction group while 41.18% in expectant management group. Our results correlated with studies mentioned above.

In this study, severe pre-eclampsia occurred in 7.35% women of induction group while in expectant group, it was noted in 22.06% women. Seizures occurred in 2.94% woman in group A and 7.35% women in group B. similar results have been reported by other studies. According to the results of our study, induction of labour is associated with favorable maternal outcomes regarding normal vaginal delivery and prevention of severe pre-eclampsia.

CONCLUSION

Induction of labour is associated with improved maternal outcome in terms of caesarean section and pre-eclampsia in women with mild PIH



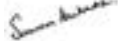

beyond 36 weeks of gestation as compared to the expectant management.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
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2	Dr. Rahat Akhtar	Study design, Data collection	
3	Dr. Sumera Mehnaz	Manuscript writing	
4	Dr. Aamir Furqan	Final approval, Proof reading	
5	Farman Ali	Data Analysis, Statistical analysis	