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Hypertension: A Chaos of Pregnancy

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Abstract

Background: *The incidence of pregnancy induced hypertension and it complications are increasing in the routine clinical practice of Gynecology and obstetrics.*
Objectives: *To study the prevalence of Pregnancy induced hypertension and its associated complications.*
Methodology: It was a prospective comparative type of study which was conducted in the Mohammad Medical College hospital MirpurKhas. It was carried out from July 2018 to July 2019. In this study 150 patients were included, 50 were of control group and 100 were of test group. Two groups were made age wise, 75 were below 30 years and 75 were above 30 years.
Results: *Abortion 22% (p=.001), APH 20% (p=.001), PPH 21% (p=.004), Pre term labor 14% (p=.002), IUGR 26% (p=.001), eclampsia 10% (p=.000), Pre eclampsia 23% (.000), maternal mortality 13 %(004), Fetal mortality 15% (.002) signifies a close relationship with pregnancy induced hypertension.*
Conclusion: *It was concluded that pregnancy induced hypertension increases the risks, complications and mortality in pregnancy.*

Keywords*: Hypertension, Pregnancy, Pre eclampsia, Eclampsia.*

Introduction

Blood pressure in pregnancy should remain up to 140/90 but if it rises to or above 160//100, condition is known as hypertension. Hypertension in pregnancy is a lethal disorder that affects not only the maternal health in different trimester of pregnancy but also the fetal outcome. Preeclampsia is one of the most common disorders endangering the life of the expected mother. When hypertension accompanies with proteinuria usually after 20th week of pregnancy it is labeled as preeclampsia. If untreated convulsions may occur and condition is known as eclampsia.([1]) Toxemia is the other name of pregnancy induced hypertension. ([2])

Various complications that may occur in pregnancy induced hypertension include pre eclampsia, eclampsia, preterm deliveries and increased incidence of maternal and fetal complications. Each year hypertension related disorders take 40,000 lives in the developing Asian countries. An estimated 10% pregnancies are complicated by hypertension. ([3])

WHO report that 9.1% women throughout the world suffer from hypertension related disorders[.9] in south East Asia 66000 women die due to hypertension related disorders.([4])

Pre eclampsia is the leading manifestation in hypertension related disorders. It is most commonly manifested in nulliparous but it can also occur in multiparous. As compared to western countries, developing countries suffer more from the complications of hypertensive related disorders. 99 of 100 deaths occur in developing countries.([5])

The increased incidence of maternal and fetal mortality occurs because it is usually diagnosed late in pregnancy when proteinuria is reported with hypertension. In unites states of America 15% of total death toll in pregnancy is due to hypertension related disorders. Hypertension usually leads to CVA, Angina attack and cardiac failure. Fetus is at increased risk of IUCR, preterm delivery and abortion. ([6])

Abruption of placenta, hepatic and renal failure, paralysis and myocardial infarction usually complicate pregnancy related disorders. 30% of elevated blood pressure is just the continuation of high blood pressure while 70% is related to pre eclampsia.([7]) Most of the maternal and fetal complications occur because of hemorrhage and infections. These complications usually manifested due to poor antenatal care in developing countries. The most important factor that produces fetal complications is decreased maternal blood flow through placenta leading to decreased oxygen availability to fetus.

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Early diagnosis and start of anti hypertensive drugs leads to decline in both fetal and maternal complications.[8] The cause of hypertension in pregnancy is immunological based which comprised of an unpredictable response of vascular endothelium in pregnancy.[9]

All cases reported in antenatal care should be carefully evaluated for BP monitoring and proteinuria after 20th week of pregnancy.[10] Women who suffer from pregnancy induced hypertension are more prone to develop chronic hypertension.[11] In developed countries early diagnosis and prompt start of treatment has declined the complication of pre eclampsia and eclampsia.[12,13]

Hypothesis

The study was based on the null hypothesis that there is no relationship between hypertension and pregnancy.

Objective of study

To identify the prevalence of pregnancy induced hypertension and its relevant complication in the MirpurKhas urban and rural population.

Rational of study

The rational of study was to create awareness about the effect of hypertension on pregnancy.

Methodology

Research area: The study was conducted in the Department of Gynae and Obs of Mohammad Medical College MirpurKhas.

Study Design: Prospective comparative type

Sampling: It was randomly and progressively done.

Duration of study: One year from July 2018 to July 2019.

Sample size

There were total 150 participants selected from OPD and Gynae department of Mohammad Medical College MirpurKhas.

Control group

In the control group there were total 50 participants. 25 (50%) were below 30 years and 25 (50%) were above 30 years. They were selected from OPD and Gynae department of Mohammad Medical College MirpurKhas.

Test group

In the test group 50 (50%) participants were below 30 years while 50 (50%) were above 30 years selected from OPD and Gynae department of Mohammad Medical college MirpurKhas.

Ethical consideration

This study was conducted after the approval of from the department of physiology and department of Gynae and Obs Mohammad Medical College MirpurKhas. A written consent was taken from each participant. Participants were selected after fulfilling inclusion and exclusion criteria.

Including Criteria

All those pregnant women were included who presented with history of hypertension, Pre eclampsia and eclampsia in different trimester of pregnancy. The slandered criteria were systolic blood pressure more then 140 and diastolic blood pressure more then 90. Only those participants selected who gave their consent.

Excluding criteria

All those pregnant women who did not presented with any history of hypertension and proteinuria. All those patients who were not suffering from epilepsey or other disorders leading to fits. Pregnant women who did not gave consent, were not included in the study.

Clinical examination

Blood pressure was recorded in sitting position. A mercury sphygmanometer was used to record blood pressure. It was recorded from both arms. A time interval of five minutes was taken and an average blood pressure was recorded. Urine DR was done of all patients.

Statistical analysis

Data was analyzed by SPSS 16 software. Frequency of the participants was determined by descriptive analysis. Cross tab was used to match different variable. Chi squire test was applied to access the validity of the results. P value .005 was determined for significance of the result. Result of the data was saved in a specific questionnaire.

Results

Table #1 explains the frequency of participants. There were 50 (33.3%) control patients and 100 (66.7%) test participants.

Table#2 shows frequency of age group of different participants. There were total 150 participants. In the control group 25 (50%) were below 30 years and 25 (50%) were above 30 years. In the test group 50 (50%) participants were below 30 years while 50 (50%) were above 30 years.

Table # 3 narrates percentage of abortion, APH, PPH, IUGR, preeclampsia, eclampsia, maternal mortality and fetal mortality. Out of 100 test participants suffering from pregnancy induced hypertension, 22 (22% p value .002) suffered from abortion, 20(20% p value .001) were the victim of APH, 21 (21% p value .004) were of PPH. 14 (14% p value .002) suffered were preterm labor, 26 (26% p value .001) fetuses were suffering from IUGR, 23 (23% p value .001) patients suffered from pre eclampsia. Eclampsia was detected in 14 (14% p value .001) of patients. Maternal mortality was found in 13 (13% p value .004) of patients. 15(15% p value .002) patients suffered from fetal mortality. Fetal distress was detected in 14% of patients (p value .002). Hypertension was detected in 45% of primary and 55% of multipara patients (p value .001).

Table 1 Frequency of participants

Group	Frequency	Percentage
Control	50	33.3
Pregnancy induced hypertension	100	66.7
Total	150	100.0

Table 2 Frequency of age group

Variable	AGE		Total
	Below 30 y	Above 30 y	
Control	25 50%	25 50%	50 100%
Pregnancy induced hypertension	50 50%	50 50%	100 100%
Total	75 50%	75 50%	150 100%

Table3 Frequency of complications in pregnancy induced hypertension

Variable	Abortion N=100	APH N=100	PPH N=100	Preterm Labor N=100	IUGR N=100	Preeclampsia N=100	Eclampsia N=100	Maternal mortality N=100	Fetal mortality N=100	Fetal distress	parity	
											primary	Multi
HTN	22 22%	20 20%	21 21%	14 14%	26 26%	23 23%	14 14%	13 13%	15 15%	14 14%	45 45%	55 55%
P value	.001	.001	.004	.002	.001	.000	.000	.004	.002	.002	.001	.001

Discussion

This study concluded that pregnancy induced hypertension has a close link with pre eclampsia and eclampsia. This finding is very close to the study done by Olivier PM *et al* in 2016. The present study showed 23% pre eclampsia, 13% eclampsia and pre term labor 14% this is a contrast result as compared to the study conducted by Seyom E *et al* in 2015 which revealed 35.5% pre eclampsia, 20% eclampsia and 31% pre term labor. This is most probably because of better management and facilities provided by Liaquat university hospital. The result obtained by Belay and Wudad at al in 2019 revealed 12% of pre eclampsia which was lesser then the present study because of lesser no of participants. The study conducted by Shahla K *et al* in 2014 showed 14% of eclampsia which is very similar to present study. The present study showed 23% pre eclampsia while the study conducted by Abera T *et al* in 2019 revealed 15% preeclampsia. The difference was because of large number of participant (422) in the study.

Conclusion

It was concluded that pregnancy induced hypertension is the major culprit that increases the maternal and fetal morbidity and mortality. Hypertension increases the incidence of abortion, IUGR, preterm labor, pre eclampsia and eclampsia.

Conflict of interest

There is no conflict of interest between the authors

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