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Original Research Paper

Comparitive study of fetal out come in pregnancy induced Hypertension with Normal Pregnancy.

Gynaecology

KEYWORDS: : Gestational Hypertension, Pre eclampsia, Eclampsia, Low birth weight, Diastolic blood pressure.

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ABSTRACT

BACK GROUND Compared the fetal out come in PIH with normal pregnancy in preventing pre eclampsia & neonatal complications METHODOLOGY 100 patients in the study were randomly allocated in to two groups of 50 cases & 50 controls are taken in to study such that the fetal out come is compared50 cases are PIH patients & 50 controls are normal pregnancy. Patients were monitored at each visit , admitted & followed till delivery & looked for fetal out RESULTS: The magnitude of PIH disorder was 2.4 % severe pre eclampsia & more in low socio economic status followed by Eclampsia. Fetal out come indicating that as DBP increases , bad outcome increases & leads to neonatal complications like LBW babies like 30%, IUD 4%, Low APGAR score 18 %, Pre term delivery 31% which was statistically significant.CONCLUSION:In a study fetal outcome of PIH compared with normal pregnancy showed that severe pre eclampsia is the most common of all pregnancy related hypertension disorders . In this study shows that as DBP increases bad outcome of fetus increases at birth & it is statistically significant leads to fetal complicatioms like Low APGAR score, Preterm deliveries .

INTRODUCTION: Hypertensive disorders in pregnancy is one of the commonest medical disorders in pregnancy diagnosed by obstetricians clinical practice & one of the major causes of perinatal morbidity & mortality 1 approximately 1,00,00 women die world wide per annum because of eclampsia 1 . It is said that pre-eclampsia & eclampsia contribute to death of a women every 3 million world wide 2. Pre- eclampsia is a common dangerous condition for both mother & baby and it is also predictable in onset & progression, cured only by termination of pregnancy. Pre eclampsia is gestational HTN with proteinuria, appearance of proteinuria remains diagnostic criteria 3. The disorder is multi factorial, although most cases of pre-eclampsia are characterized by abnormal maternal uterine vascular remodeling by fetal derived placental trophoblast cells 4. In India gestational HTN continues to be responsible for the largest proportion of perinatal deaths resulting from prematurity & IUGR and its major contributity to perinatal morbidity 1. Majority of this conditions are preventable with good antenatal care.High blood pressure is a sign, not a disease reflecting an increase in cardiac output or total peripheral resistance . These vascular changes can arise in number of disorders that may have different effects on pregnancy outcome 5. Pregnancy incites or aggrevates HTN remains unsolved despite decades of intensive research & hypertensive disorders remain among the most significant unsolved problems in obstetrics .another important stimulus for research is the international society for the study of HTN in pregnancy (ISSHP). Also the national heart , lung & breast institute (NHLBI) encourage on going research & coordination through the national high blood pressure educational programme (NHBPEP) & its working group report on high blood pressure in pregnancy.the perinatal risk are much greater in developing countries where poverty, illiteracy, poor health care & nutritional deficiency such as anaemia still exist . A large proportion of women with severe pre eclampsia & eclampsia admitted to hospital are emergency admissions & has received no previous antenatal care. Further more most of the hospitals involved donot have sophisticated facilities with intensive care units for the mother & neonates . consequently in developing countries both eclampsia & severe pre- eclampsia are associated with high perinatal mortality & morbidity. Hospitals which have been also biophysical profile have added a new dimension . the perinatal death rate is 6-40% in the severest form of eclampsia of these disorders . the hypertensive disease in preganacy can be said to continue to cause many of the fetal & infant death in this country & through out the world

METHODS:

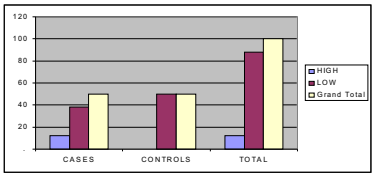
After obtaining institutional & ethical committee clearance , study was undertaken in 100 patients comparing fetal outcome with normal pregnancy. INCLUSION CRITERIA: gestational HTN or pregnancy induced HTN, pre eclampsia, eclampsia , chronic HTN , pre eclampsia super imposed on chronic HTN . EXCLUSION CRITERIA : B.wt < 500gms, higher order multiple pregnancy, major fetal anomaly, incompatible with survival,patients who are diagnosed with other cause of convulsions in pregnancy like cerebral malaria & epilepsy , pregnancies complicated with diabetes milletus,primary renal disease,collagen vascular diseases 100 participants who fulfilled the selection criteria after taking informed consent were categorized into two groups by block randomization .Group-A control 50 patients normal pregnancy with out complications. Group-B study group- 50 PIH patients. All the pregnant women attending the antenatal care were screened for hypertension and were included in the study and followed till delivery and 6-8 weeks post delivery . On admission history taking with emphasis on symptoms of severe pre-eclampsia and imminent signs , general physical examination , built , nutritional status, height, weight , BP & PR along with absence or presence of pallor and pedal edema. CNS, CVS , RS are examined , PER abdomen – assess growth of the fetus , liquor quantity , fetal HR .Blood samples were collected for laboratory investigations. Bp monitoring was done hourly, 15 minutes depending upon severity ,blood samples were recorded every 3 days ,fetal status is evaluated with NST each day and USG evaluation twice a week .Patients were monitored accordingly , as per their BP readings and planned for mode of delivery depending on maternal condition and obstetric indication. Fetal outcome is measured

RESULTS:

1) STUDY SUBJECTS BASED ON SOCIO-ECONOMIC STATUS:
SESCASESCONTROLSTOTALHIGH12012LOW385088Grand Total5050100

SES	CASES	CONTROLS	TOTAL
HIGH	12	0	12
LOW	38	50	88
Grand Total	50	50	100

PIH is common in low socio economic group



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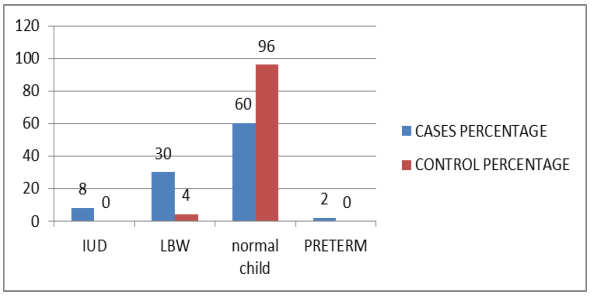
2) STUDY SUBJECTS BASED ON CHILD OUTCOME

CHILD OUTCOME	PIH CASES	CASES PERCENTAGE	CONTROLS	CONTROL PERCENTAG
IUD	4	8	0	0
LBW	15	30	2	4
normal child	30	60	48	96
PRETERM	1	2	0	0
Grand Total	50	100	50	100

This table shows that 30% of PIH cases give birth to LBW babies and mostly(60%) to normal weights babies.4% cases are IUD ,

GRAPH SHOWING DISTRIBUTION OF CHILD OUTCOME BOTH IN CASES AND CONTROLS



3) STUDY SUBJECTS ACCORDING TO THEIR CHILD BIRTH WEIGHTS

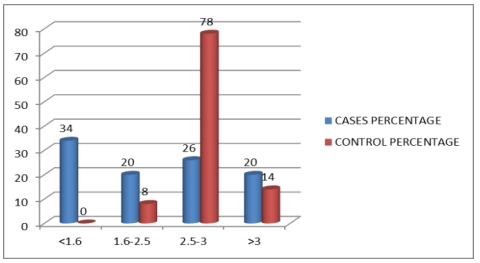
B.WT(kg)	CASES B.WT	CASES PERCENTAGE	CONTROL B.WT	CONTROL PERCENTAGE
<1.6	17	34	0	0
1.6-2.5	10	20	4	8
2.5-3	13	26	39	78
>3	10	20	7	14
Grand Total	50	100	50	100

The table shows that the study sample fetal birth weight was between 2.5 to 3.0 kgs in 52% of patients and 1.6 and 2.5 kgs in 28% of babies. 17% of neonates had birth weight less than 1.6 kgs and all were from hypertensive pregnant mothers only. 17% babies have birth weight above 3.0 kgs.

Two-sided confidence interval 95%				
	Sample size	Mean	(B.wt) Dev.	Std.
Cases	50	2.118		0.94
Controls	50	2.823		0.294

t-value=10.222
p<0.001
Birth weights of children of both the groups has a statistically significant difference, that control normal pregnant women children weigh more than hypertensive pregnant women children.

GRAPH SHOWING BIRTH WEIGHT DISTRIBUTION OF BABIES IN PIH CASES AND CONTROLS

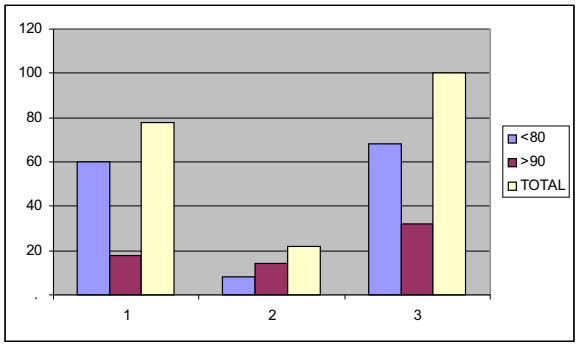


4) SUBJECTS SHOWING THE RELATION OF DIASTOLIC BLOOD PRESSURE WITH FETUS OUTCOME

DBP(mm Hg)	NORMAL CHILD	BAD OUTCOME	TOTAL
<80	60	8	68
>90	18	14	32
TOTAL	78	22	100

CHI SQUARE
VALUE =12.8
P<0.0001

The table shows that as DBP increases ,bad outcome of fetus increases at birth and it is statistically significant.



DISCUSSION: The most important aim of every consultant in obstetrics and fetal medicine will be to give an alive healthy viable infant to the parents . She should also ensure safe mother hood . The end result of efficient antenatal care is reflected in maternal and fetal outcome.

Our study revealed that teenage primi constituted nearly 33% which compares with the incidence of 27.3% in a study done at university of transkey by buga GA ,Luma . Age below 25 years constituted around 62% of cases which compares with the 52% incidence obtained in a study at Central hospital ,Mozambique by Said in 1992 .In a study conducted CKM hospital the teenage primi constituted around 50% of the cases . The present study is comparable with studies of molvi SN et al (2012 and jasvicsiveska et al6(2010),where the patients with HTN disorders were more seen in primi gravidae.

The important point to be observed here is a teenage pregnancy are preventable as is also PIH in that group by administration of low dose aspirin in early pregnancy.The maternal &fetal complication rate is more in teenage pregnancy.Therefore we have to focus our attention on these cases by preventive aspects & aggressive management of the problem.

Low socio economic group comprised about 84 % of the cases of hypertensive disorders. This is in comparision with Ian donalds 5th edition & Williams 21st edition which says that preeclampsia is more common in low socio economic group because of combination, poor dietary habits with ignorance leading to poor antenatal care. High socio economic group comprised only 4 % which is accordance to Williams 21st edition which says that socio economically advantageous women have low incidence of pre eclampsia . study done at CKM hospital also shows that 73% of cases occur in low socio economic group & 1.33 % in high income group according to Arup kumar majhi 7. Majority of the patients 82 % belong to low socio economic status which is largely related health & family welfare of people In our study , the caesarean section rate 56% is very much acceptable because of various obstetric problems like APH, IUGR, Fetal distress & also failed induction . Abdominal delivery is accepted by many obstetricians as a better mode of delivery to ensure good fetal outcome provided good neonatal intensive care is available
The APGAR score in our study reflects the adequacy &

correctiveness of the antenatal management & obstetrics interventions like Prophylactic Aspirin, early hospitalization for severe PIH patients. Periodic tests for fetal well being & maternal investigations & induction of labour at appropriate time & judicious use of elective caesarean section were indicated , also immediate neonatal care by team of obstetricians & paediatrics is extremely important.

In our study 52% were full term neonates , IUDs were seen in 8 % , IUGR were seen in 13%, 24 % were preterm ving a perinatal mortality of 16%.

In a study conducted at department of obstetrics & Gynaecology safdarjung hospital, New delhi by Yadav s & Saxenethe preterm neonates were 28% , still born rate were 4.8% , perinatal mortality rate was 14.8%.

Study by meyer d, oslan university of albert shows that severe pre eclampsia increases the risk of IUGR & LBW. Perinatal mortality is mainly influenced by gestational age at delivery & But independent of severity of HTN. Adverse perinatal outcome in our study compared with various perinatal mortality varies between 14 & 18 % . leading causes of perinatal mortality in our study & various studies are ARDS, Prematurity & neonatal jaundice. Prematurity was one of the causes for adverse perinatal outcome because early onset of PIH (we noted in our study leads to other problems resulting in small for dates & deeply asphyxiated babies).

We have devised a protocol in our hospital where every patient of mild, severe PIH < 34wks gestation is given antenatal corticosteroid – Betamethasone 12 mg repeated after 24 hrs to increase fetal lung maturity to prevent ARDS, Pseudomembranous colitis , periventricular haemorrhage.

Conclusion:

The aim of being to evolve a standardized pattern of management of cases of mild, severe PIH , eclampsia so that do not adversely effect the fetal outcome . the conclusion we safely state that proper clinical examination & bedside techniques like Doppler, fetal movement count in an institute like ours where facilities were few timely induction of labour , decision for emergency LSCS or elective has gone long way ensuring 75 % of patients to go home with a healty weighable infant.

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