

Fetal Outcome in Hypertensive Mothers

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SUMMARY

A retrospective study was performed at the department of Obstetrics and Gynaecology, Shaikh Zayed Federal Postgraduate Medical Institute, Lahore from October 1994 to December 1995 (15 months). This study focussed on a group attending the outpatient department suffering from hypertension during pregnancy (including both pregnancy induced hypertension and chronic hypertension). These patients had very good antenatal care and intrapartum care. The total number of patients screened were 2005 out of which the number of hypertensive patients was 115 (5.75%). This is at the lowest range of hypertensive patients in pregnancy (5-15%). The fetal outcome in these hypertensive patients was very satisfying i.e. 80% babies were born with good Apgar score and 64.35% were appropriate for gestational age.

INTRODUCTION

Despite recent advances in medical technology the exact etiology of pregnancy induced hypertension (HTN) has not yet been discovered. It still remains a mysterious disease with grave maternal and fetal outcome.

The outlook of pregnancy varies with the various types of hypertensive disorders. The fetal outcome is also dependant upon the underlying cause of HTN. The important variables affecting the fetus are;

- a) Duration of HTN
- b) Gestational age
- c) Severity and complications of HTN

Fetal outcome in these patients can be positively affected with early detection of the disease and good antenatal care. This is followed by vigilant intrapartum surveillance including proper fetal monitoring. This will reduce the risks both for the mother and the fetus through timely intervention.

OBJECTIVE

The aims and objective of the study were to determine the incidence of hypertensive disorder in pregnancy in a group attending the out-patient department; its management; the fetal outcome in these patients. The study was carried out at the

Department of Obstetrics and Gynaecology, Shaikh Zayed Hospital, Lahore.

MATERIALS AND METHODS

The selected patients were managed with vigilant surveillance on antenatal, intrapartum and postpartum basis.

Antenatally, the mothers were screened in detail starting from the history; history of HTN in present or previous pregnancies, any excessive weight gain, headaches, blurring of vision etc. Family history of HTN was also taken into account. On general examination, blood pressure recording of 140/90mmHg on 2 separate occasions at least 4 hours apart or a single reading of 160/100mmHg labelled the patient as hypertensive.

Excessive weight gain increase; non dependent edema on face and fingers was noted carefully. Systemic examination of respiratory system, CV system, any exaggerated reflexes was looked for.

Abdominal examination to see the height of fundus, size of baby, any sign of intrauterine growth retardation, diminution in liquor, fetal heart sounds all are very important signs; weekly visits were performed after the selection of patients.

After baseline investigations, special tests like renal function tests, liver function tests, coagulation profile, platelet count, lipid profile were all performed.

Serial ultrasonography and biophysical profile was done for monitoring the fetal growth and fetal well being both and to see the amount of liquor and placental localization as well.

Intrapartum

These selected hypertensive patients had intensive maternal and fetal monitoring during labour. Our routine was to take these patients to complete 37 weeks for fetal maturity. Only in severe uncontrolled hypertension and in cases of intrauterine growth retardation, intervention prior to 37 weeks was performed.

The route of delivery was based upon the obstetrical conditions as well. If no obstetrical indication for caesarean section was present, the induction of labour with prostin or syntocinon was done with a liberal decision for caesarean section. Elective caesarean section was performed only in severe IUGR to save them from the insult of labour.

During labour one to one monitoring was performed to check blood pressure of mother 1 hourly, if required Aldomet infusion or Adalat drops were given to lower the blood pressure. Proteinuria was looked for and progress of labour monitored and patient kept pain free as well. Fetal monitoring was done by continuous CTG diagnosed fetal distress early so that delivery was accelerated. Delivery was always attended by a neonatologist.

Post Partum

Patients were kept in hospital for 48 hours to observe the blood pressure and proteinuria and other objective signs of post partum eclampsia. If blood pressure was not settled the patient was discharged on tab. Aldomet and weekly follow up performed. If blood pressure did not settle after 6/52 post partum, medical consultations regarding HTN was performed.

RESULTS

Table 2 shows the incidence of hypertensive patients to be 5.75% including both essential hypertensive patients (23%) and pregnancy induced hypertensive patients (73%). The 5 eclamptic patients were all unbooked (4%).

The age distribution of hypertensive patients seen in the study showed that 52% of the patients were between 21-30 years showing that it is a disease of the younger ages (Table 3).

Table 1: Breakdown of hypertensive patients at Shaikh Zayed Hospital, Lahore (October 1994 to December 1995)

Total number of patients screened	= 2,005
Total number of booked antenatal patients	= 2,000
Total number of unbooked patients (eclampsia)	= 5
Total number of hypertensive patients detected	= 115 (5.75%)

Table 2: Break down of patients with hypertension (n=115).

Breakdown Hypertensive Patients	Number	Percent
Essential Hypertensive	26	23
Pregnancy Induced Hypertensive	84	73
Eclampsia (Unbooked)	5	4
Total	115	100%

Table 3: Age distribution of hypertensive patients (n=115)

Age (Years)	Number	Percent
< 20	4	< 4
21-30	60	52
31-40	50	43
> 40	1	< 1
Total	115	100

It is evident from Table 4 that a majority were primigravida patients. As parity increases percentage is seen to rise again due to increasing age.

Table 5 shows the caesarean section rate to be significantly high (32.17%) whereas the S.V.D rate is seen to be 57.39%.

Table 5 shows that 85 (74%) were term deliveries and 30 (26%) were preterm deliveries. Incidence of prematurity is higher in hypertensive patients as compared to the existing incidence of

preterms which is 10% only. This nearly 3 fold higher prevalence of preterm deliveries in our study is basically because of early induction of labour for uncontrolled hypertension or compromised fetal growth.

Table 4: Parity of women with hypertensive disorder of pregnancy (n=115).

Parity	Number	Percent
1	44	38.3
2	24	21.0
3	21	18.3
4	8	7.0
5	3	3.0
>5	15	13.0

Table 5: Mode of delivery in hypertensive patients (n=115)

Mode	Number	Percent
SVD	66	57.39%
C. section	37	32.17%
Forceps delivery	08	06.97%
Vacuum extraction	04	03.48%
Total	115	100%

Table 6: Gestational age at delivery (n=115)

Gestational age	Number	Percent
Preterm Deliveries (32-37 weeks)	30	26%
Term Deliveries (37 weeks onward)	85	74%
Total No. of Patients delivered	115	100%

Majority of babies (74 = 64.35%) were appropriate for gestational age (AGA). Low birth

weight were only 32 (27.83%), whereas very low birth weight were 8 babies (6.96%).

Table 7: Apgar Score of Babies Born to Hypertensive Mothers

No. of Babies	A/S at 1 minute	A/S at 5 minute
8	2/10	6/10
13	3/10	6/10
30	6/10	9/10
60	7/10	9/10

* Intrauterine death (IUD)

Out of 115 deliveries we had 4 intrauterine deaths. Of these 4 intrauterine deaths, 2 were eclamptic patients from emergency, 3rd I.U.D occurred in a patients with pregnancy induced hypertension and severe IUGR (intrauterine growth retardation). In this case, at the onset of 2nd trimester, growth of the baby ceased at about 26/52 of pregnancy and baby succumbed at 32/52 of gestation, so considering extremely poor outcome of the baby, no intervention was done. The 4th IUD occurred in a women who delivered at 32/52 of pregnancy. She had pregnancy induced hypertension with severe IUGR. She was induced with prostaglandin E₂ vaginal tablet and had a still birth, the baby weighing only 1kg. 8 babies with very low apgar scores.

DISCUSSION

This study carried out at Gynaecology and Obstetrics Department of Shaikh Zayed Hospital, Lahore clearly indicates that the number of hypertensive mothers was 5.75% and at the lowest range of the internationally accepted figures of 5-15%¹. The reported incidence at Rawalpindi Medical College was 19.65%².

Hypertensive disorder in pregnancy have an increased incidence of operative deliveries, as is evident from our study i.e. caesarean section rate of 32.17%. Although the rate of caesarean section has increased at an accelerated pace over the last 2 decades and is reported in United States of America at 25%³. There was also a report of recent large

increase in caesarean sections in Italy. In his study in 1995 Signorelli et al.⁴ showed the crude caesarean section rate to be 29.4% in pre-eclampsia; being stated as the biggest high risk factor. Our results show a caesarean section rate of 32.17% which is slightly higher than this latest study in Italy. This is because being high risk cases a liberal decision regarding caesarean section was taken, keeping in view the safety of both the mother and the fetus. These results also show that individual practice style in different countries may be an important determinant of the wide variation in the rates of caesarean delivery.

Regenstein et al 1995 carried out a study about the mode of delivery of pre-eclampsia women with very low birth weight babies and concluded from his study that labour does not increase the risk of poor outcome for the preterm infant of a mother with PET⁵. He stated that a trial of labour should be considered in carefully selected women with pre-eclampsia having very low birth weights. In comparison to this study, our study gave trial of labour to women with pre-eclampsia, but in those pre-eclamptic patients associated with very low birth weight babies, we were definitely more liberal in performing caesarean section primarily to protect the preterm infant from the insult of labour.

We had advised hospital admission to the moderate and severe forms of hypertensive patients and our study showed a very good fetal outcome i.e. appropriate for gestational age babies to be 74%. This is in contrast to Crowther's study in 1992, who believed that hospital admission for bed rest decreased the risk of developing severe hypertension, but no improvement in fetal growth or neonatal morbidity was observed⁶.

CONCLUSION

Hypertensive disorder in pregnancy encompasses a group of disorder which manifests with its sequelae both to the mother and the fetus. The use of antihypertensive drugs allows the fetus to grow in the uterus besides reducing maternal risk; pregnancy is prolonged by few more weeks to enhance the maturity of the fetus.

In a fraction of patients we have to terminate the pregnancy in the interest of the mother ignoring

fetal maturity specially if disease occurs early in pregnancy.

Ultimate treatment of pregnancy induced hypertension is delivery. Induction of labour or caesarean section should be deferred until the fetus is mature enough to survive. Now a days, with improved neonatal care, caesarean section to deliver preterm babies has a reasonable chance of fetal survival, as is also evident from our study.

To conclude, though the disease cannot be cured yet with effective antenatal care and fetomaternal surveillance, the risks to the mother can be minimized and perinatal outcome improved.

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