

THE ROLE OF INDUCTION OF LABOUR IN HYPERTENSIVE DISORDERS OF PREGNANCY

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SUMMARY

The effect of induction of labour on perinatal outcome and caesarean section rates in pregnancies complicated by hypertension is assessed. The overall perinatal mortality was 14.2%. The induction group had a corrected PNMR of 5% compared to 25% in the conservatively managed group. Caesarean section rates did not differ significantly in induced and spontaneous labours.

Introduction

Hypertension in pregnancy constitutes a hazard to both maternal and fetal health. Delivery is the only known cure for pre-eclampsia. In any form of hypertension, fetal and neonatal complications can be minimised by appropriately planned delivery. The choice between continuing conservative management and terminating pregnancy is often a difficult one. This study attempts to analyse the place of induction of labour in hypertension in pregnancy.

Material and Methods

From January 1989 to May 1989, 103 patients with hypertension in pregnancy were studied. Initial management consisted of hospitalization, bed rest and

sedation. Anti-hypertensives were added if the above measures failed to control the hypertension. Cardiotocography was used to monitor fetal well-being from 32 weeks onwards. Patients were divided into the following groups:

- (A) According to severity: (1) Mild hypertension: B.P. 140-159/90-109 mm Hg. and (2) Severe hypertension B.P. \geq 160/110 mm Hg.
- (B) According to management:
 - (1) Induction of labour
 - (a) At term in absence of maternal or fetal complication. (b) Preterm for maternal complications or uncontrolled hypertension over 72 hours and (c) for fetal compromise.
 - (2) Patients admitted with spontaneous onset of labour.
 - (3) Patients managed expectantly

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after control of hypertension or awaiting fetal maturity even in poorly controlled cases.

Perinatal outcome and caesarean section rates were assessed in these various groups.

Results

The total number of deliveries during the study period was 1689, thus the incidence of hypertensive disorders of pregnancy was 6.1%. Mild hypertension was seen in 67.6% and severe hypertension in 32.4% of cases. Induction of labour or elective caesarean section was performed in 52.4% of patients, 31% were admitted in spontaneous labour and 16.5% were con-

servatively managed. (Table I). In this latter group, 12 had mild and 5 severe hypertension remote from term. The indications for induction of labour were as in Table II. The caesarean section rates in the elective delivery group was 29.6%. However, in patients in whom labour was induced caesarean section was required in 20.6% of cases, compared to a 25% rate in patients admitted in spontaneous labour (Table III).

The overall perinatal mortality was 14.2%. IUGR was seen in 59.8% and prematurity in 9.5% of neonates, with 2 sets of twins. The rate of respiratory distress syndrome (RDS) in the induction group was 7.4%. However, excluding cases in-

TABLE - I
DISTRIBUTION OF CASES

	Mild	Severe	Total
Induction :			
Uncomplicated, at term	29	7	36
Complicated, preterm	6	6	12
Fetal compromise	6	—	6
Total Induction	41	13	54
Spontaneous labour	28	4	32
Expectant Management	12	5	17
Total	71	22	103

TABLE - II
INDICATIONS FOR INDUCTION

Indications	No	PNM
I. Uncomplicated, term induction	36	1
II. Maternal complications, preterm induction	12	7
a) PROM	3	2
b) Renal impairment	2	1
c) Severe uncontrolled hypertension	3	2
d) Abruptio placentae (dead fetus)	2	2
e) IUFD on expectant management	1	1
f) Abruptio on expectant management	1	—
III. Fetal compromise	6	0
Total	48	9

TABLE - III
MODE OF DELIVERY

	Induction/ Elective C.S.*	Spontaneous Onset	Expectant Management
No.	48 + 6*	32	19
Normal Delivery	28	16	13
Caesarean Section	10 + 6*	8	—
Assisted Breech	—	2	4
Forceps	6	3	1
Vacuum	4	3	1

duced for worsening maternal disease, the rate of RDS was 2.9% comparable to 3.1% in the spontaneous labour group and much less than the 26.3% in the conservatively managed group. Induction of labour carried a 10% perinatal mortality of which 2 fetuses were dead on admission, the corrected PNMR being 5%. There babies were lost in the conservatively managed group (PNMR 25%). A lower incidence of severe disease probably accounts for the better

perinatal survival in the patients with spontaneous labour (Table IV). Patients with severe P.I.H. wer analysed separately. In patients presenting at term with severe P.I.H. the PNMR was 9.1%. Preterm induction in patients with failed medical management carried a 50% mortality whereas expectant management resulted in one IUFD, 4 spontaneous preterm labours and a PNMR of 80% (Table V).

TABLE - IV
PERINATAL OUTCOME

	No	Mild HT*	PNM	%	Severe HT*	PNM	%	RDS	%
Induction	54	41	4	10	13	4	30	4	7.4
Spontaneous onset	32	28	0	—	4	0	—	1	3.1
Expectant Management	19	12	3	25	5	4	80	5	26.3

*HT = Hypertension

TABLE - V
SEVERE PIH : MODE OF MANAGEMENT

Mode of Management	No	PNM	%
Term, induction/C.S. on admission	7	1	14.2
Term, spontaneous labour on adm.	4	0	—
Preterm induction	6	3	50
Expectant Management	5	4	80
Preterm spontaneous labour	4	3	75
IUFD	1	1	—

One maternal death occurred due to postpartum haemorrhage and one patient had abruptio placentae, both on conservative management.

Discussion

Reluctance to terminate pregnancy complicated by hypertension centres around two concerns: that failed induction might necessitate caesarean section in these high risk patients and the fear of iatrogenic prematurity. The caesarean section rates in our study did not differ markedly between the elective delivery group and the spontaneous labour group. The PNMR of caesarean deliveries was 4.1%. None of the hypertensive patients subjected to Caesarean section experienced serious morbidity and there was no maternal mortality. The incidence of RDS was also similar in the two groups. This risk can be minimised by using multiple parameters for estimation of gestational age and the judicious use of steroids to enhance lung maturity when preterm termination of pregnancy is required³.

Martin and Tupper (1979) attempted conservative management in 55 patients of severe pre-eclampsia. The mean prolongation period was 19 days. 31 pregnancies had to be terminated for worsening maternal disease. Severe pre-eclampsia remote from term presents a particular problem and prolongation of pregnancy is usually attempted in the fetal interest. Sibai et al (1985) attempted conservative management for severe P.I.H. in the second trimester. The high maternal morbidity (abruptio placentae in 22%, convulsions in 17% and acute renal failure in 5%) associ-

ated with 87% neonatal mortality led them to state that expectant management with the assumption that prolongation of pregnancy in a hostile intrauterine environment improves neonatal survival is of limited value.

Maternal morbidity and mortality also increase with conservative management. Hibbard (1973) found that physician errors contributing to maternal deaths in toxemia of pregnancy include underestimation of the virulence of the disease, over-confidence in drugs that mask the symptoms but do not alter the progress of the disease and reluctance to apply the only therapy yet devised i.e. termination of pregnancy.

Conclusion

Pregnancy complicated by hypertension responding to treatment can be managed expectantly till term when induction of labour provides the best fetal salvage without increasing the caesarean section rate. Severe hypertension not responding to treatment should be terminated regardless of gestational age for optimal maternal and fetal outcome.

Acknowledgement

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