PERINATAL OUTCOME IN HYPERTENSIVE DISORDERS OF PREGNANCY

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ABSTRACT

The effect of antihypertensive treatment and perinatal outcome were studied in the 150 cases of hypertensive pregnant ladies. The overall perinatal mortality ratio was 300/1000 live births. The incidence of small for date babies was 17.3%; of premature babies 23% and of low birth weight babies 20% in the study group. There was a rising trend of perinatal deaths with the severity of hypertension and with the appearance of proteinuria and convulsions. The maternal mortality in hypertensive patients was 2.7%. All these deaths were in the eclampsia group. The perinatal outcome of 13.1% was better in the treated group, as the perinatal mortality was 35.7% in the untreated cases. This prognostic effect was maximum in milder forms of hypertension. There was a higher number of operative deliveries and higher number of low APGAR score babies in the study group. The major risk factors increasing the perinatal death rate statistically were the lack of ante-natal care, haemoglobin level less than 8.5g%, gestation less than 37 weeks, birth weight less than 2.5 kg and the presence of intrauterine growth retardation.

Introduction

Hypertensive disorders of pregnancy (HOP), regardless of the underlying etiology and pathogenesis, has a spectrum of clinical manifestations and are encountered by every obstetrician because of its high incidence. In developing countries hypertensive disorders of pregnancy account for a sizeable number of perinatal deaths due to lack of antenatal care to every mother and also due to the lack of facilities for careful foetal monitoring. The present paper reviews our experience of perinatal outcome in patients with HDP and highlights the various casual and contributory factors for the perinatal mortality. The other important aspect of this study was the evaluation of the effect of antihypertensive treatment upon the perinatal outcome, in terms of morbidity and mortality.

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Material and Methods

In the present study, a total of 200 cases were studied over the period of 1 year (from July'87-July'88). Out of these 150 cases were labelled as hypertensive disorders of pregnancy. The criteria for selection were: 1) Pregnancy duration of more than 28 weeks, 2) Blood pressure recording of more than 140/90 mmHg on two occasions, 24 hours apart, 3) The appearance of proteinura and/or convulsions. Oedema was not considered as a diagnostic factor. All cases with other obstetrical complications were excluded from the study. These hypertensive pregnant women were divided into treated and untreated groups. The treated patients were treated with mainly methyl-dopa, diuretics and sedatives.

Just after the birth the baby was examined for APGAR score index, birth weight, for any congenital anomaly, anthropometric measurement and gestational age, low birth weight (LBW) was defined as birth weight below 2.5kg. Intrauterine growth retardation (IUGR) was defined as birth weight below 2 standard deviation (-2 SD) of mean weight of gestation according to growth charts of AIIMS (Delhi). The neonates were followed in postnatal period till discharge or death in the hospital.

Results

During the period of review, there were 150 cases of HDP, out of total 1218 deliveries thus giving the incidence of HDP to be 12.3%. The perinatal outcome worsened with the increase in the severity of the toxaemia as shown in the Table I.

TABLE I

Association of hypertension and proteinuria with perinatal loss

	B.P. mm Hg	Toxaemia Cases No.	Percentage	Perinatal Loss No.	(%)
Group I P.I.H.	> 140/90	48	32.00	4	8.40
Group II Mild P.E.T.	> 140/90	44	29.30	11	25.00
Group III Severe PET	> 160/110	+33	22.00	10	30.30
Group IV Eclampsia	> 140/90 + Proteinuria + Convulsions	25	16.60	20	80.00

The antihypertensive treatment definitely improved the perinatal outcome, as marked by a reduction in perinatal mortality. While percentage of premature and small for date births was higher in the treated group.

In general, antihypertensive treatment was effective mainly in mild forms of toxaemias. Although a detailed comparison could not be made out because of very small numbers of study cases.

There was a higher incidence of caesarean section delivery in HDP cases as comparison to controls, similarly low APGAR score babies were more common in the study group.

TABLE II

PERINATAL OUTCOME IN TREATED AND UNTREATED CASE OF HDP

	Perinatal deaths	Still births	Neonatal deaths	Premature	S.F.D.	F.T. AGA
Untreated (A)	35.7%*	23%*	15.1%*	14%*	11.6%*	42%**
112	(40)	(26)	(13)	(12)	(10)	(47)
Treated (B)	13.1%	7.8%	8.6%	45.6%	31.4%	63.1%
38	(5)	(3)	(3)	(16)	(11)	(24)

p *, **.

TABLE III

Incidence of caesarean section and low APGAR (at 1 min.) babies in HDP

	H.D.P.		General Obstet. Population		P
	No.	(%)	No.	(%)	Value
Caesarean section	59	39.0	195	17.3	< 0.01
Low APGAR	30	20.0	1	3.0	< 0.01

All four maternal deaths were from the eclampsia group. All these were unbooked patients brought to the hospital with a long interval after convulsion. The cause of maternal deaths are shown in Table IV.

The maternal mortality was 16% in eclampsia as compared to 3.7% in HDP group.

Maximum number of perinatal deaths were still births and more than half of them were macerated.

TABLE IV

Maternal mortality causes

Causes of death	No. of cases
Shock	2
Pulmonary oedema	1

Discussion

There was a high incidence of HDP in our series (12.3%). It can be due to the referral nature of this hospital. Jain (1982) also reported 11.84% cases of HDP in similar set up.

Maternal mortality of 3.7% in the present series is admittedly high. But analysing the fatal cases it is observed that death mostly occured in those cases who were admitted late after the first convulsion. The reported incidence of maternal mortality in literature is 2.2% by Menon (1961) and 10.4% by Devi (1976).

The perinatal outcome, both in terms of morbidity and mortality was significantly affected by the severity of toxaemia. The perinatal mortality was 39% in all series, with maximum deaths (82.3%) in eclampsia cases. This incidence have been reported to be 26.9% by (1948) 20% by (1951) (Nevwelier de Rezender) 11.7% by Gibson (1962).

There were 17.3% small for date babies, 23% babies born before term and 20% new borns were low birth weight (kg) Lin (1981) have reported almost similar results.

There was a definite improvement in the perinatal survival in treated group (P.N.M. 13.1%) in comparison to untreated group (PNM 35%). Although the occurence of premature and small for date babies was higher in the treated group. This can be explained by the increased frequency of premature induction of labour in such cases either to save maternal/or foetal complications. Redman (1976) and Leather (1968) also observed a good prognostic effect of the antihypertensive treatment upon the perinatal outcome. The non proteinuric hypertensive cases responded better than proteinuric group. In severe preeclamptic patients, there was no prognostic effect of antihypertensive treatment upon the perinatal outcome, although it definitely improved the maternal results.

There was about two fold increase in operative deliveries (39%) as comparison to general obstetric population (17.3%). Although we could not get any improvement in perinatal outcome by caesarean section, nevertheless, there was no perinatal death in treated patients who were delivered by operative route.

This study also highlights that majority of cases of severe PET and eclampsia can be prevented by providing a good antenatal care which would also result in better foetal prognosis as 70% of the perinatal deaths occured in unsupervised pregnancies.

This antenatal care will cover all other risk factor associated with toxaemia of pregnancy i.e. anaemia and a timely diagnosis of hypertension can result in proper management of a case with antihypertensive treatment, timely admission to the hospital, liberal use of tests to monitor the placental functions and foetal maturity, timely interruption of pregnancy and proper management during the neonatal period.

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