

PREGNANCY INDUCED HYPERTENSION AND TWIN PREGNANCY

by

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Pregnancy induced hypertension (PIH) and pregnancy aggravated hypertension are much more likely to develop in pregnancies with twin fetuses (Pritchard and MacDonald, 1976). The reported incidence of PIH with twin pregnancies varies from 7.3 per cent to 72.6 per cent (Aaron *et al*, 1961; Heidecher, 1973) mainly due to variability in the diagnostic criteria of PIH and the availability of antenatal care. Scant Indian literature is available on the association of PIH with twin pregnancies. This study was undertaken to evaluate the association and the incidence of PIH in twin pregnancies in Northern India to study its effects on perinatal mortality.

Material and Methods

In the present series, 232 cases of twin pregnancies were studied. Of these, 87 cases were studied in 2 years (1978 and 1979) and other 145 were reviewed from the case records of previous 3 years. Criteria laid down by the American Committee of Maternal Welfare were used for the diagnosis of PIH. Correction in the

perinatal mortality rate (PMR) was made for birth weight of less than 1 kg. and/or major congenital malformations. Intrauterine growth retardation (IUGR) was diagnosed in infants whose birth weight was less than 1 standard deviation from the birth weight for the corresponding gestational age. Two hundred and thirty-two patients with single pregnancies and matched age and parity served as controls. Statistical evaluation of the results was done using Chi square test with or without modification for number of observations.

Results

The present series included 232 consecutive twin pregnancies over a period of 6 years (1974 to 1979) out of a total of 12,358 pregnancies. Thus the incidence of twin pregnancies was 1 in 53 pregnancies. The mean age of mothers with twin pregnancies was 26 years (range 20 to 41). 29.3 per cent of the women were primigravidas while 26.2 per cent were para 4 and above. 56 per cent of the women received antenatal care at our Institute (booked cases), while other 44 per cent did not receive any antenatal care (Unbooked cases).

The incidence of PIH was 25 per cent (58/232) in mothers with twin pregnancies and 11.2 per cent in the control group (26/232). The incidence of PIH

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was almost similar in booked and unbooked cases (Table I).

TABLE I
Incidence of Pregnancy Induced Hypertension in Twin Pregnancy

Classification	Booked	Unbooked
Mild PIH	23	18
Severe PIH	7	8
Eclampsia	0	2
Total	30	28
Percent of total in the group	23	27.45

When data was analysed in relation to parity, the incidence of PIH in primigra-

of booked cases (33.3 per 1,000, $p > 0.01$). There was no statistical difference between the PMR of primigravida with PIH and multigravida with PIH (130 versus 142 per 1,000).

There was significantly higher incidence of anaemia, prematurity and IUGR in the neonates born alive after 28 weeks of gestation of twin pregnancies as compared to controls. However, there was no significant difference when these parameters were compared in the PIH and non PIH groups of twin pregnancies (Table II). Similarly, no difference was observed in the birth weight of PIH and

TABLE II
Comparison between Twin and Singleton Pregnancy

	Twin Pregnancy		Single Pregnancy
	PIH	Non PIH	
No. of Patients	58	174	232
Anaemia	11 (18.96%)	36 (20.68%)	19 (8.1%)
Prematurity	21 (36.2%)	71 (46.8%)	27 (11.6%)
IUGR	41/100 (41%)	106/267 (39.7%)	36 (15.5%)
Mean Birth Weight Kg	2.02	2.16	2.96

vida twin pregnancies was 33.8 per cent, whereas it was 21.34 per cent in multigravida twin pregnancies. However there was no significant difference statistically ($p > 0.05$).

The overall PMR in 282 twin pregnancies was 198.6 per 1,000 which was significantly higher than PMR of 34.4 per 1,000 in singleton pregnancies. The PMR in twin gestation with PIH was less than PMR of twin pregnancies without PIH (137 versus 219.2 per 1,000). However, the difference in the PMR of these two groups was not statistically significant ($p > 0.05$). PMR in unbooked cases of PIH with twin pregnancies (250 per 1,000) was significantly higher than PMR

non PIH groups of twin pregnancies (Table II). There seems to be no relationship between PIH and zygosity of twins (Table III).

TABLE III
Association between PIH and Zygosity of Twins

Placenta	PIH		Non PIH	
	PIH	%	Non PIH	%
Binovular	36	62.6	105	60.34
Uniovular	13	22.4	55	31.6
Undetermined	9	15.5	14	8.0

Discussion

Twin gestation is one of the major risk factors for the development of PIH. How-

ever, the precise mechanism by which twin gestation contributes to the development of PIH remains unknown. In the present study, the incidence of PIH in twin pregnancies was 25.0 per cent as compared to 11.2 per cent in singleton pregnancies. Interestingly, the incidence of PIH in booked cases was similar to the incidence of PIH in unbooked cases though eclampsia occurred only in the unbooked cases.

PMR in twin pregnancies complicated with PIH was high, especially in those who had no antenatal care. In our experience, there was no significant difference in the PMR of twin pregnancies with PIH and twin pregnancies without PIH. Bender (1952) and Tow (1959) have made similar suggestions. This suggests that PIH in twin gestation does not adversely affect the perinatal outcome. Similarly there was no significant difference in the incidence of prematurity, IUGR and birth weight of foetus in PIH and non PIH groups of twin gestation.

There is wide variation in the incidence of PIH in primigravidas. Patel and Patel (1961) reported an incidence of 19 per cent. On the other hand, Bulfin and Lawler (1957) has reported an incidence of 72 per cent. Both these workers have reported a much higher incidence in primigravidas as compared to multigravidas.

In the present study also, the incidence of PIH was higher in primigravidas as compared to multigravidas (33.8 per cent versus 21.34 per cent). Bender (1952), on the other hand, did not observe any difference in the incidence of PIH in primigravida and multigravida twin pregnancies. Schmid-Tannwald and Houser (1976) found an incidence of PIH of 42.5 per cent among mothers bearing twins and they also did not report any difference in the incidence in primigravida and multigravida twin pregnancies.

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