ROLE OF ANTI-HYPERTENSIVE DRUGS IN THE TREATMENT OF MILD HYPERTENSION IN PREGNANCY : CRITICAL EVALUATION

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SUMMARY

273 patients of mild hypertension in pregnancy were divided in three groups, according to the treatment received. Group I (n = 103) received methyl dopa, Group II (n = 127) received no antihypertensive and Group III (n = 43) received antihypertensive other than methyl dopa like nifedipine, hydralazine or labetolol. The total perinatal mortality rate was 62.27/1000 live births. The perinatal mortality group I was 10.7 percent, in group II 3.1 percent ($p < 0.025$) and in group III was 4.6 percent. The percentage of babies born with birth weight of less than 2.5 kg. was 39.8 percent in group I, 25.9 percent in group II ($p < 0.05$) and 30.2 percent in group III. There was no distinct advantage in treating patients of mild hypertension in pregnancy with antihypertensive drugs in terms of duration of gestation, birth weight and perinatal outcome.

INTRODUCTION

Although everybody agrees on the need to treat severe hypertension in pregnancy by giving antihypertensive drugs, there is still controversy regarding the need to treat mild hypertension by these drugs. There is little to justify treatment in this group on the grounds of maternal welfare and the case for treatment depends on influencing pregnancy outcome favourably (Moor and Redman 1987). Various authors have carried out trials on different antihypertensive drugs, like methyl dopa (Leather et al 1968 & Redman et al 1976), Labetolol (Walker et al 1983) and atenolol (Rubin et al 1983).

This study was undertaken with the aim of evaluation of the role of antihypertensive drug administration in pregnancy with mild hypertension.

MATERIAL AND METHODS

We retrospectively analysed 273 patients of mild hypertension in pregnancy over a period of three years. All the patients were booked in antenatal clinic except five percent and all had a hospital delivery. They were monitored during antenatal and intra-natal period by daily fetal movement record, non stress test,

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Accepted for Publication on 5/12/91.

ultrasonography, the kidney function tests, liver function tests, coagulation profile, twenty four hour urine albumin, fundoscopy etc. The pregnancy was allowed to continue normally till term and was intervened if impending fetal jeopardy was suspected or the disease progressed to severe variety.

All the patients having blood pressure within the range of 140/90 to 169/109 mm of Hg on two different occasions were labelled as mild hypertensive and were assigned to different types (Table I) depending on the diagnosis. The patients with less than 0.5 gm albumin in 24 hour urine were included in mild preeclampsia.

The patients were divided into three groups. Group I received methyl dopa orally 250 mg thrice a day and the dose was increased upto two grams in 24 hours depending on the control of blood pressure. Group II received no antihypertensive drugs. Patients were advised bed rest and sedated at night with luminal 30-60 mg if necessary. Group III received antihypertensive drugs other than methyl dopa like nifedipine 30-60 mg in 24 hours, hydralazine 50-100 mg/24 hours and labetolol 400 mg/800 mg in 24 hours. Pregnancy outcome in terms of duration of gestation, baby weight, apgar score at, 1, 5 & 10 minutes and overall perinatal mortality were noted.

X^2 test was applied to test the statistical significance. P value of less than 0.05 was considered significant.

RESULTS

Out of 273 patients studied there were 94 primigravidae and 179 multigravidae. The mean age was 26.6 years.

Table 1. Shows distribution of different type of hypertension in each group. Fifteen patients [Six (4.8%) in Gr. 1, Seven (5.5%) in Gr. II and two (4.6%) in Gr. III] progressed to severe variety of hypertension.

Table 2 shows perinatal mortality in different groups. There were total 17 perinatal deaths out of which 7 were stillbirths and one baby had meningomyelocoele c Spina bifida. The perinatal mortality rate was 62.27/1000 live births. Maximum mortality was in Gr. I and was statistically significant (p 0.025).

Table 3 gives further information about the perinatal mortality in different types of hypertension. The maximum mortality was in chronic hypertension with super imposed pre-eclampsia, followed by pre-eclampsia.

Table - I

Different types of hypertension in each group

Type of Hypertension	Group I	Group II	Group III	Total
Mild PIH	45	103	32	180
Mild PE	21	22	10	53
CHT	29	2	1	32
CHT c Super imposed PE	8	0	0	8
Total	103	127	43	273

PIH - Pregnancy induced hypertension
PE - Pre- eclampsia
CHT - Chronic hypertension

Table - II

Perinatal mortality in the different groups

	No. of Patients	Perinatal Deaths
Group I	103	11 (10.7%)
Group II	127	4 (3.1%)
Group III	43	2 (4.6%)
Total	273	17 (6.2%)

Group I versus Group II $P < 0.025$
other N. S.

Table - III

Peri-natal deaths in different types of hypertension

	Mild PIH n = 180	Mild PE n = 53	CHT n = 32	CHT c Superimposed PE n = 8	Total
Group I	4	3	1	3	11
Group II	3	1	0	0	4
Group III	1	1	0	0	2
Total	8 (4.4%)	5 (9.4%)	1(3.1%)	3(37.5%)	17(6.2%)

Table - IV

Pregnancy outcome in various groups

	Total	Maternity		Birth weight		
		Term	Preterm	1.5 kg	1.5 - 2.5	2.5 kg and above
Group I	103	88	15	5	36	62
Group II	127	115	12	2	31	94
Group III	43	38	5	1	13	29

Below 2.5 kg babies in Group I vs Group II $p < 0.05$ other are N. S.

Total pregnancy outcome is shown in table 4 in each group elaborating the number of term and preterm deliveries and the birth weight of the babies. The total number of low birth weight babies i.e. 2.5 kg in group I was 41 (39.8%) compared to 33 (26%) in group II and 13 (30.2%) in group III. The number in group I was statistically significant compared with group II (p 0.05) and the others are not statistically significant. The number of preterm deliveries is comparable in each group.

DISCUSSION

The management of hypertension in pregnancy by different antihypertensive drugs is still a matter of keen interest as shown by the number of trials of different antihypertensive drugs carried out by different authors. The most commonly used drug methyldopa has been studied by controlled trials by Leather et al (1968) and Redman et al (1976).

Leather et al (1968) in a trial of 100 moderately hypertensive women found that the treatment seemed to confer no benefit in women who were normotensive before twenty weeks. In the control and treated group there were 6 perinatal deaths each in 48 and 52 patients respectively.

Redman et al (1976) found that the incidence of pre-eclampsia was unaffected by treatment but fetal outcome was significantly better although the cause of this remains unexplained. Rubin et al (1983 b) in a trial of atenolol & Wichman et al (1984 a) in a controlled trial of metoprolol in the treatment of moderate hypertension showed no advantage for treatment. Lunell et al (1982 b, 1983) showed that reduction of moderately elevated blood pressure to normal by labetolol or hydralazine does not alter utero placental blood flow.

In our study we have found statistically significant high perinatal mortality ($p < 0.0.25$) and more number of low birth weight babies ($p < 0.025$) in the methyl dopa group when compared with no antihypertensive group. The other drugs like hydralazine, nifedipine or labetolol also confered no advantage as compared with no antihypertensive group. This is possibly because the utero placental blood flow may be dependent on perfusing arterial pressure.

As is clear from the present study, antihypertensive drugs do not decrease perinatal mortality as well as do not help in improving baby weight.

With no evidence that the patients deteriorate to severe variety more commonly without the use of antihypertensive drugs, it is strongly recommended that these drugs should not be used in mild pregnancy induced hypertension and preeclampsia.

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