

EFFECT OF DIURETICS AND SALT RESTRICTION ON THE OUTCOME OF PREGNANCY WITH MILD HYPERTENSION

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SUMMARY

Use of diuretics and salt restriction had no beneficial role in mild pre-eclamptic toxæmia patients. On the contrary they had harmful effect. On the other hand normal diet and no diuretics had beneficial effect.

Induction at less than 38 weeks of gestation was required in more percentage of patients on diuretics and salt restriction.

The mean birth weight and mean maturity were significantly more in patients on normal diet and no diuretics.

Perinatal mortality, though higher in salt restricted and diuretic group, was not statistically significantly different from the group on normal diet and no diuretics.

Introduction

For many years bed rest, diuretics, salt restricted diet, sedatives, antihypertensives and timely termination of pregnancy were advocated in the treatment of pre-eclamptic toxæmia. Then the role of diuretics and salt restriction became controversial. In the present day practice, diuretics are not given and patients are put on normal diet. The present study shows the beneficial role of normal diet and withholding of

diuretics in mild pre-eclamptic toxæmic patients.

Material and Methods

The study was conducted on 80 patients, who were admitted in the obstetric wards of Smt. S. K. Hospital from May to December 1980. These patients had their blood pressure ranging from 140/90 to 155/99 mm of Hg, irrespective of oedema or excessive weight gain and no fundal changes or proteinuria. They were divided into two groups. Group I comprised of odd number of patients who received normal diet and no diuretics. Group II consisted of even number of patients who had salt restricted diet and diuretics (Lasix 40 mg daily) till oedema subsided. Patients were

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observed in the wards and during labour and foetal outcome noted.

Observations and Results

Group I matched with Group II regarding age, parity and socio-economic status. The patients were classified according to clinical response.

Good response — After initial high blood pressure, they remained normotensive.

Moderate response — Those who showed intermittent high B. P. readings but always remained in the group of mild hypertensives and pregnancy could be continued till term.

Poor response — Those who showed persistently high BP or became severe hypertensives or albuminuria and fundal changes appeared during observation period.

Clinical response

Clinical response of both groups of patients is shown in Table I. In Group I,

77.5% of patients showed good response in the antenatal period as compared to 50% of patients in Group II. A statistically significant difference was found in the number of patients who remained controlled after admission in the two groups ($P < 0.05$). None of the patients in Group I developed fundal changes or albuminuria whereas 2 patients (5%) developed albuminuria on 7th and 15th day of admission in Group II. Moreover in Group II, 3 patient (7.5%) showed fundal changes also.

Mode of delivery :

Comparison of mode of delivery in the two groups is shown in Table II. Nineteen (47.5%) patients went into spontaneous labour in Group I as compared to 10 (25%) in Group II. Induction was more (72.5%) in Group II as compared to Group I (47.5%). Regarding mode of delivery also the difference between the two groups was statistically significant ($P < 0.05$).

TABLE I
Clinical Response of Patients in Antenatal Period

Response	Group I		Group II	
	No. of cases	% age	No. of cases	% age
Good	31	77.5	20	50.0
Moderate	4	10.0	9	22.5
Poor	5	12.5	11	27.5

$P < 0.05$

TABLE II
Comparison of Mode of Delivery in Group I and II

Mode of delivery	Group I		Group II	
	No. of cases	% age	No. of cases	% age
Spontaneous	19	47.5	10	25.0
Induction	19	47.5	29	72.5
Elective C.S.	2	5.0	1	2.5
Total	40	100.0	40	100.0

$P < 0.05$

Duration of gestation and mode of delivery :

Table III shows the mode of delivery and duration of gestation. Percentage of patients who were induced at less than 38 weeks gestation, was 5.26% in Group I and 31.04% in Group II. Thus statistically lower incidence of premature induction was observed in Group I.

Birth weight :

Birth weight of babies in both the groups is compared in Table IV. Babies weighing 2.5 Kg. or more were 66.65% in Group I and 41.85% in Group II. Difference in the number of babies born in the

two groups with birth weight 2.5 Kg. or more was statistically significant ($P < 0.05$).

The mean birth weight of babies in Group I was 2666.62 gms \pm 503.6 gms and in group II was 2540.72 gms \pm 181.3 gms. Higher mean birth weight was found in Group I and the difference from group II was statistically highly significant ($P < 0.01$).

Maturity of babies :

Table V shows the maturity of babies in Group I and II. Babies attaining maturity of 38 weeks and above were 85.71% in Group I as compared to 76.43% in

TABLE III
Comparison of Mode of Delivery and Period of Gestation in Group I and II

Mode of delivery	Group I					Group II				
	< 38 wks		38 wks & >			38 wks & >				
	Total cases	No.	% age	No.	% age	Total cases	No.	% age	No.	% age
Spontaneous	19	3	15.79	16	84.21	10	2	20.0	8	80.0
Induced	19	1	5.26	18	94.74	29	9	31.04	20	68.96
Elective										
C.S.	2	0	—	2	100.00	1	0	0	1	100.00

$P < 0.05$

TABLE IV
Comparison of Birth Weight of Babies in Mothers Group I and II

Birth weight in Gms.	Group I		Group II	
	No. of cases	% age	No. of cases	% age
Less than 1,500	1	2.38	0	0
1500-1999	2	4.76	1	2.32
2000-2499	11	26.19	24	55.81
2500-2999	18	42.85	11	25.58
3000-3499	9	21.42	6	13.95
3500-3999	1	2.38	1	2.32
4000 Gms & above	0	0.00	0	0.00
Total	42	100.00	43	100.00

$P < 0.05$

TABLE V
Comparison of Maturity of Babies in Mothers of Group I and II

Maturity in Wks.	Group I		Group II	
	No. of cases	% age	No. of cases	% age
32	0	0	0	0
32 - 34	1	2.38	0	0
34 - 36	0	0.00	2	4.65
36 - 38	5	11.9	12	27.90
38	36	85.71	29	67.43
Total	42	100.00	43	100.00

Group II. Mean maturity in group I and II was 38.61 ± 0.95 weeks and 38.5 ± 0.56 weeks, respectively. The difference in the two groups was statistically significant ($P < 0.05$).

Correlation of Birth weight and maturity :

Babies with maturity of 38 weeks and above and birth weight less than 2.5 Kg. were 23.8% in group I as compared to 37.2% in group II. Though the intrauterine growth retardation was more in Group II, the difference was not significant statistically ($P > 0.05$).

Perinatal Mortality :

Perinatal mortality in both the groups is compared in Table VI. There was one still-birth in group I and 3 in group II. No neonatal death occurred in either group. Difference in perinatal mortality between the two groups was not significant statistically ($P > 0.05$).

There were no maternal deaths in either of the two groups.

Discussion

This study showed that diuretics and salt restriction had no beneficial effect in toxemia of pregnancy. On the contrary, poor response was shown by the patients on diuretics and salt restriction, as compared to patients on normal diet and no diuretics. Hauth *et al* (1976) did not prescribe salt restriction and diuretics to their patients after hospitalisation and observed that 85% of their patients became normotensive within 5 days of hospitalisation. Symonds and Anderson (1974) also found similar results. In the present study, 5.26% remained uncontrolled on normal diet and no diuretics while 6% remained uncontrolled in the series reported by Hauth *et al* (1976). Two patients developed albuminuria and 3 patients fundal changes of toxemia in those getting salt

TABLE VI
Comparison of Perinatal Mortality in Group I and II

Groups	Total births	Live babies		Babies died	
		No.	% age	No.	% age
Group I	42	41	97.61	1	2.38
Group II	43	40	93.02	3	6.97

$P > 0.05$