

CERVICOGRAPHIC PROGRESS OF LABOUR IN HYPERTENSIVE PREGNANCIES

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SUMMARY

Labour has been observed to be easily inducible and of shorter duration in patients of eclampsia. In order to find out whether it is true for preeclampsia also, a prospective study of cervicographic progress of labour has been carried out in 69 primigravidae and 34 multigravidae with hypertensive pregnancies. Thirty normotensive primigravidae and 30 multigravidae served as controls. The mean duration of active phase in primigravidae with PIH was 3.1 hours as compared to 4.9 hours in controls ($P < 0.005$). The difference in multigravidae was not significant (3.2 hours vs. 3.75 hours). The average cervical dilatation rate in active phase was significantly more in primi with PIH (2.82 cm/hour) than in controls (1.57 cms/hour). The difference was not significant in multigravidae. Both the components of active phase, the acceleration phase and maximum slope were significantly shortened in primigravidae with PIH, while in hypertensive multigravidae only the phase of maximum slope was significantly shortened ($P < 0.05$). The possible mechanism and clinical significance is discussed.

INTRODUCTION

The patients with pregnancy induced hypertension (PIH) are known to deliver prematurely. There is a widely held clinical impression that the duration of labour is unusually shortened in patients with eclampsia although the same could not be traced in the reviewed literature. It was therefore decided to study

the cervimetric progress in pregnancies complicated by hypertension and compare it with comparable normotensive patients.

MATERIALS AND METHODS

Cervicographic progress of labour was studied prospectively in 69 primigravidae and 34 multigravidae in early labour, in pregnancies complicated by hypertension. The patients having any other obstetric (CPD, abnormal presentation, post caesarean section pregnancy) or medical complications were excluded. Thirty

normotensive uncomplicated primigravidae and 30 multigravidae served as control. Initial cervical dilatation was plotted on a partogram and subsequently every 2 hours during the active phase. The duration of active phase and its components (acceleration phase and phase of maximum slope) was noted and the cervical dilatation rate (CDR) in active phase was calculated for both study and control groups which were compared after applying statistical tests of significance.

OBSERVATIONS

Of 103 cases of PIH, 68 (66.9%) had mild hypertension while 33.1% had severe hypertension (diastolic B. P. \geq 110 mm of Hg.)

The mean cervical dilatation on admission for primigravidae with PIH was 2.5 cms as compared to 1.86 cms in control group. For multigravidae with PIH it was 2.8 cms in comparison to 2.5 cms for their controls. This difference was not significant statistically and both the groups were thus comparable.

Table I shows the course of labour in primigravidae with PIH. The mean duration of active phase alongwith both of its components, acceleration phase and phase of maximum slope, was significantly shorter in primigravidae with PIH when compared to their normotensive controls. Average CDR

was also significantly higher in them (2.82 cms/hour) when compared to controls (1.57 cms/hour).

Table II shows the course of labour in multigravidae with PIH. The mean duration of active phase was 3.2 hours in their controls. This difference however was not statistically significant. On further analysis however, only the phase of maximum slope appeared to be significantly shorter in multigravidae with PIH than in control multis ($P < 0.05$).

80.3% primigravidae with PIH had active phase of less than 4 hours as compared to only 20% of controls ($P < 0.005$).

80.6% of multigravidae with PIH had active phase of less than 4 hours as compared to 53.3% of their controls. The difference however was not statistically significant.

57.5% of primigravidae with PIH had a CDR of more than 2 cms as compared to only 13.4% in control group ($P < 0.05$).

In multigravidae the CDR did not differ significantly in PIH patients.

99 out of 103 patients with PIH delivered vaginally and only 4 patients required caesarean section (3.9%), the indication for caesarean section being fetal distress in all. This low incidence of caesarean section is due to exclusion of cases with any obstetric complication.

Table I

Mean Duration of Different Phases of Labour in Primigravidae with PIH

	PIH	Control	P
Mean acceleration phase	1.1 hrs (\pm 0.75)	1.43 hrs (\pm 0.61)	($P < 0.005$)
Mean Max. slope phase	2.5 hrs (\pm 0.97)	3.5 hrs (\pm 1.02)	($P < 0.005$)
Mean active phase duration	3.1 hrs (\pm 1.36)	4.9 hrs (\pm 1.32)	($P < 0.005$)
Average CDR in active phases	2.82 cms (\pm 1.76)	1.57 cms (\pm 0.64)	($P < 0.05$)

Table II

Mean Duration of Different Phases of Labour in Multiparous with PPH

	PPH	Control	P
Mean acceleration phase	1.18 hrs (\pm 1.54)	1.36 hrs (\pm 1.1)	NS
Mean Max. slope	2.07 hrs (\pm 1.18)	2.41 hrs (\pm 1.05)	$P < 0.05$
Mean active phase	3.2 hrs (\pm 1.90)	3.75 hrs (\pm 1.96)	NS
Average CDR in active phase	2.39 cm (\pm 1.07)	2.16 cm (\pm 0.94)	NS

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DISCUSSION

The observations in present study suggest that labour is definitely faster in multiparous with PPH. Amongst multiparous the time to be faster but the difference is not statistically significant. This could be due to overall observation of faster progress in several multiparous patients.

Zwaga and Tallero (1968) and also other (Chamber 1966) have shown that the duration of labour is significantly shortened in multiparous patients. They have also observed that labour is easily inducible, and these patients respond to small doses of oxytocin (2 ml) even with an unfavourable cervix.

Edward Cobo (1964) has demonstrated a 5-10 fold increase in uterine contractility pattern in multiparous patients in comparison to normal subjects at the same stage of gestation. This was usually in the form of increase in contractile frequency. Clinical contractions affect cervical maturation favourably. Therefore, shorter duration of labour is expected in multiparous women, especially in PPH patients.

MATERIALS AND METHOD

This study was conducted in the Department of Obstetrics and Gynaecology, St. J.

during a long period of time under a most favourable condition of sleeping in the sitting position for initiation of labour. This hypotension could be due to an increased amount of circulating catecholamines.

What is the practical implication of these observations?

In the multiparous, the termination of pregnancy is often induced, either on maternal grounds or fetal, even when the cervix is unripe. These observations suggest that an easy inducibility and a faster progress in first stage of labour can favour a decision about the mode of termination of pregnancy in favour of induction of labour rather than an elective caesarean section.

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