

LABOUR GRAPH (PARTOGRAM) IN THE MANAGEMENT OF PRIMIGRAVID LABOUR

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SUMMARY

Reliability of Labour-graph was studied on 149 primigravidae admitted in Maternity Section of Sheri-i-Kashmir Medical Institute Srinagar, deleting all those with obstetrical complications. Normal labour studied for latent and active phases of cervical dilatation shows mean duration of latent phase as 8.66 ± 3.66 hours and active phase 6.96 ± 1.38 hours. Abnormal dilatation was seen in nearly 23.49% with highly significant statistical difference $P < 0.001$. Observations shall prompt partogram utilization in remote field situations in absence of highly professional staff.

Introduction

Normal labour comprises the series of processes by which the products of conception are expelled from uterus without aids. Mismanagement and improper estimation of normal time during labour may lead to the morbidity, mortality or disability of the new born or mother. The Partogram (Labour graph) has provided a reliable means of identifying such problems and preventing mismanagement.

Material and methods

149 Primigravida in labour with vertex presentation were studied. The progress of labour was plotted on a labour

graph for 24 hours as per Philpott 1972, Studd 1973, and Barwin 1976. The patient with any systemic disease or obstetric complications were excluded from study. Time of admission was recorded as Zero hour and labour graph was started from onset of labour, confirmed by per vaginal examination every 4 hourly. The dilatation of cervix was measured digitally. The normal limit for various phases was taken as per Friedman.

Observations

The age group of cases studied at our Hospital varied between 16 - 30 years and maximum number of cases were in the age group of 22 - 25 years. The height did not have any relevance with the type of labour. Out of 149 cases studied, 114 (76.5%) cases had normal cervical dilata-

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Accepted for Publication on 13-6-90.

tion pattern and 35 (23.5%) cases had abnormal cervical dilatation pattern. Out of which 7.4 % cases with abnormal cervical dilatation were identified during latent phase and rest 16.1 % during active phase:

TABLE I
SHOWING PATTERNS OF CERVICAL DILATATION IN PRIMIGRAVIDAE IN LABOUR

Cervical Dilatation Pattern	No. of cases	%age
Normal	114	76.51
Abnormal: (a) Latent phase	11	7.38
(b) Active phase	24	16.11
Total (all types)	149	100.00

In cases with normal cervical dilatation observations reveal that latent phase was 8.6 ± 3.6 hours and active phase lasted for 6.9 ± 1.38 hours. In cases with abnormal latent phase, the latent phase was

prolonged to 22.5 ± 3.23 hours and active phase was 9.43 ± 4.09 hours. The cases who had abnormal cervical dilatation in active phase had latent phase of 9.84 ± 4.09 hours and active phase was prolonged to 15.36 ± 4.81 hours (Table II). Labour duration estimates derived for normal and abnormal cervical dilatation in both phases does not appear to be consistent with one another and statistical test applied exhibits highly significant results with $P < 0.001$. The labour duration estimates during maximum slope, deceleration phase and second phase did not fluctuate to any appreciable degree in both normal and abnormal cervical dilatation.

While analysing foetal position (Table III) all but one case showed Occipito-anterior position in normal cervical dilatation cases (99.12%) whereas 90.91 % with abnormal cervical dilatation in latent phase and 95.83 % cases with abnormal cervical dilatation in active phase (23 cases)

TABLE II
SHOWING EFFECT OF ABNORMAL CERVICAL DILATATION ON LATENT PHASE (HRS) ACTIVE PHASE (HRS), MAXIMUM SLOPE (CM/HR), DECLARATION PHASE (HRS) AND SECOND STAGE (HRS).

	Latent Phase (hrs.)	Active Phase (hrs)	Maximum slope (cm/hr)	Deceleration phase (hrs)	Second stage (hrs.)
Cases with normal cervical dilatation (114)	8.66 ± 3.60	6.96 ± 1.38	1.62 ± 0.69	0.70 ± 0.30	1.00 ± 0.68
Cases with abnormal cervical dilatation during latent phase (11)	22.5 ± 3.25	9.43 ± 4.09	1.43 ± 0.87	0.75 ± 0.56	0.80 ± 0.25
P Value	<.001	<.001	<.03	<.60	<.3
Cases with abnormal cervical dilatation during active phase (24)	9.84 ± 4.09	15.36 ± 4.81	0.59 ± 0.18	1.05 ± 0.35	1.30 ± 0.71
P Value	0.10	<.001	<.001	<.001	<.05

TABLE III
SHOWING CERVICAL DILATATION PATTERN AMONG PRIMIGRAVIDAE
BY FOETAL POSITION AND TYPE OF DELIVERY

Obstetric Particulars	Cervical Dilatation Pattern					
	Normal		Abnormal during latent phase		Abnormal during active phase	
	No.	% age	No.	%age	No.	%age
1. Foetal position :						
a. Occipito-anterior	113	99.12	10	90.91	23	95.83
b. Occipito-posterior	1	0.88	1	9.09	1	4.17
2. Maternal distress	2	1.75	2	18.18	5	20.83
3. Foetal distress	1	0.88	3	27.27	3	12.50
4. Type of delivery :						
a. Rupture of membranes	7	6.17	3		4	
b. Syntocinon	-	-	5		12	
c. Vacuum	2	1.75	6		3	
d. LSCS	-	-	3		5	
e. Normal delivery	105	92.11	-		-	

had similar occipito-anterior positions, however one case in each group had occipito-posterior position.

In normal cervical dilatation groups, 2 cases (1.75 %) developed maternal distress and 1 case (0.88 %) had foetal dis-

tress but in abnormal cervical dilatation group 2 cases (18.18 %) with prolonged latent phase had maternal distress and 3 cases (27.27 %) developed foetal distress. Amongst those with prolonged active phase 5 cases (20.83 %) had maternal distress

TABLE IV
ESTIMATION AND SIGNIFICANCE OF BABY WEIGHT AND APGAR SCORE
AMONG PRIMIGRAVIDA IN RELATION TO CERVICAL DILATATION

Cervical Dilatation	Baby Weight			Apgar Score		
	Mean weight in Kgs. \pm S. P.	-t value	-P value	Mean score \pm S.D.	-E value	P value
1. Normal	2.6 \pm 0.08			9.10 \pm 0.74		
2. Abnormal cervical dilatation:						
a. In latent phase	3.02 \pm 0.06	16.82	<0.001 Highly significant	7.09 \pm 0.83	8.44	<0.001 highly significant
b. In Active phase	3.06 \pm 0.28	14.78	<0.001 Highly signific.	7.71 \pm 0.95	7.87	<0.001 Highly signific.

N.B. Significance of mean weight and apgar score difference have been made between normal and abnormal levels of cervical dilatations both with latent and active phases separately.

and 3 cases (12.50 %) had foetal distress.

Majority of cases (92.11 %) had normal delivery and in only 2 cases (1.75 %) vacuum was applied. In abnormal cervical dilatation during latent phase 3 cases had LSCS while in abnormal active phase 5 cases had to undergo LSCS. In abnormal active phase 12 patients, labour was augmented with Syntocinon and in abnormal latent phase 5 cases received syntocinon, no case with normal cervical dilatation was given Syntocinon (Table III). In those with normal cervical dilatation mean baby weight was 2.6 ± 0.08 Kg. but those with abnormal latent phase it was 3.02 ± 0.06 Kg. and in abnormal active phase group had 3.06 ± 0.28 Kgs.

Apgar score in normal cases was 9.10 ± 0.74 but in abnormal latent phase it was 7.09 ± 0.83 and in abnormal active phase it was 7.71 ± 0.95 . The difference in baby weights and Apgar Scores between normal and abnormal groups was highly significant with P value < 0.001 .

Discussion

The recent introduction of partogram has enabled Obstetrician to recognize complications which affect perinatal and maternal morbidity and mortality. The vital role of duration of labour in different phases inspired us to undertake recent study to determine pattern of labour among normal primigravidae.

The average age in our study was 22.20 ± 2.43 years in normal group and 22.80 ± 5.40 years in abnormal group. There was no significant difference in the cervico-graphs. This is comparable to the series presented by Friedman (1967).

76.51% cases had normal cervical dilatation pattern and 35 (23.49 %) cases had abnormal cervical dilatation pattern

similar to that of Friedman (1978) and Ledger and Witting (1972). In our study those with normal cervical dilatation had a latent phase of 8.66 ± 3.6 hours, similar to Friedman (1955) and Kalyankutty and Rajagopalan (1973) in their series on multiparous cases. In our series the prolonged latent phase was 22.50 ± 3.25 hours, consistent with that of Friedman (1967) who reported 27.6 ± 0.71 hours. The total duration of active phase in cases with prolonged latent phase being seen to be 9.41 ± 4.09 hours. However there was no significant effect on duration of phase of maximum slope and deceleration. The mean duration of second stage was (0.8 ± 0.25) hours which was significantly shortened because of the fact that vacuum extraction was done in six cases. Artificial rupture of membranes was done in 3 cases and labour was augmented with Syntocinon in 5 cases, lower segment caesarean section in prolonged latent phase was also projected by Friedman (1967) and Ledger and Witting (1972). In our study no foetal mortality was observed.

Our results in cases with normal cervical dilatation pattern with regard to active phase, maximum slope, deceleration and second stage are comparable to various studies of Friedman (1967), Kalyankutty and Rajagopalan (1973), Friedman (1956), Ledger (1969).

In conclusion we feel that assessment of labour can be done safely, effectively and easily by means of partogram and this can be carried out even in remote areas where doctors may not be available. An awareness on part of trained nurse or midwife of this method can give her an idea as to when a patient is going to offer problems and need for specialist care is envisaged. Partogram should be a regular

feature in all case sheets of patients admitted in labour to reduce foetal and maternal morbidity and mortality.

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PERINATAL MORBIDITY AND MORTALITY

ANALYSIS OF PERINATAL MORBIDITY AND MORTALITY

SUMMARY

The perinatal outcome can be better predicted by a simple scoring system of maternal factors. This scoring can be determined not only by the mother but also by the midwife and the doctor. The scoring system is simple and can be used by the midwife and the doctor. The scoring system is simple and can be used by the midwife and the doctor.

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Material & Methods

This study was carried out at the ...

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Among these 100 cases were taken ...

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Age	20-25
Education	High
Occupation	Housewife
Income	High
Weight	High
Height	High
Parity	High

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Education	High
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