

COMPARATIVE STUDY OF CERVICAL PARTOGRAM IN NORMAL AND INDUCED LABOUR

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SUMMARY

One hundred cases of cervical partogram in normal and induced labour were studied. Induced labour cases were of toxæmia, and elderly primigravidae. The total admission delivery interval was 10.66 hours in spontaneous onset of labour group and 7.05 hours prolonged pregnancy, dysmaturity, both Rhesus isoimmunization in the induced group.

Partogram provides a pictorial display of all the essential features of labour. It facilitates assessment of risk involved in many circumstances which influences pregnancy and parturition. It enables to deduce minimal risk situation for both mother and baby.

Indication of labour ensures safe reliable and minimal risk labour, it is in patients best interest to deliver her baby in intensive care unit. Induction of labour improves obstetric efficacy which in term improves the quality of patients care. Thereby foetal and maternal morbidity and mortality are brought down to minimum.

Introduction

Use of graphic labour record which shows uterine activity as well as cervicography is a great advancement in practical obstetrics. The dilatation of the cervix, descent of head as recorded with graph can predict the length of labour and any abnormality can be detected in time.

Friedman (1955) was the first to develop a cervical dilatation time curved.

Reviewed interests in partogram particularly in relation to cervicographs was marked by Hendricks (1970), Philpolt and Castle (1972) and Studd (1973).

Partogram has proved popular as a comprehensive means of follow up in labour and it has facilitated identification of abnormal labour 10.66 hours in spontaneous onset of labour group and 7.05 hours in the induced group patterns by a comparison of individuals cervimetric progress against the normal cervical dilatation curve. The use of alert and action lines in the management of labour

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is a major advancement in the obstetrical field and has helped immensely to decide how long to passively wait and watch for the progress of labour and when to interfere. It has helped to control the duration of labour and the complications associated with prolonged labour.

In the present study it was proposed to study the progress of labour by the cervicograph in normal and induced labour. For the induced group cases were selected and closely watched with a group who went into labour spontaneously.

Material and Methods

The present study of comparative study of cervical partogram in normal and induced labour was carried among patients admitted in the labour ward.

One hundred patients were chosen for the present study. Patients were presented in two groups.

Control group—Having spontaneous labour pains.

Second group—Patients in whom labour was induced.

Only cases with cephalic presentation who came in labour were chosen.

Cervicograph

This is a graphic portrayal of cervical dilatation against time of admission was recorded against zero time on a square ruled graph paper. The zero time on graph was taken as the time of admission.

Cases selected for induction were of toxæmia, prolonged pregnancy, dysmaturity, B.O.H. I.U.D. Rhesus isoimmunization and elderly primigravidae.

Methods of induction used were medical and surgical.

Result and Observations

It shows that in induced group with increasing age there is increase in A-D interval.

Table II shows that the primigravida had longer T A D I than multigravida.

TABLE I
Effect of Age on Total Admission Delivery interval (in hours)

Type of labour	Age in years			
	15-20	21-35	28-30	31 and above
Spontaneous	9.82	12.45	9.37	10.65
Induced	9.02	7.85	5.07	6.50

TABLE II
Effect of Parity on T.A.D.I. (in hours)

Type of labour		Mean	Range
Spontaneous	Primi	12.90	6.0 -22.35
	Multi	8.42	2.45-18.00
Induced	Primi	8.50	4.0 -15.0
	Multi	6.91	2.0 -11.75

Also the spontaneous group had longer T A D I than those of induced group.

First stage was longer in primigravida and in spontaneous onset of labour than in induced group.

Latent phase was shorter in induced group in primi but there was no difference in multi.

Induced group had comparatively more instrumental deliveries than the spontaneous onset group.

TABLE III

Duration of First and Second Stages in Spontaneous and Induced Groups (in hours)

Type of labour		Mean duration of 1st stage	Mean duration of second stage
Spontaneous	Primi	12.07	0.40
	Multi	7.36	—
Induced	Primi	7.61	—
	Multi	5.90	0.49

TABLE IV

Duration of Latent Phase and Active Phase in Spontaneous and induced Labour (in hours)

Type of labour		Mean duration of latent phase (in hrs.)	Mean duration of active phase (in hrs.)
Spontaneous	Primi	7.18	4.51
	Multi	3.63	3.96
Induced	Primi	4.34	5.43
	Multi	3.06	4.06

TABLE V

Mode of Delivery in Spontaneous and Induced Cases

Type of labour		Mode of delivery					
		Normal		Forceps		Caesarean	
		No.	%	No.	%	No.	%
Spontaneous	Primi	37	74	10	20	3	6
	Multi	44	88	4	8	2	4
Total		81	81	14	14	5	5
Induced	Primi	12	23.07	20	38.46	20	38.46
	Multi	24	85.71	4	14.28	—	—
Total		36	54.39	24	36.37	20	19.23

Discussion

Normal duration of labour has been variously described by different workers. Friedman (1955) calculated the total admission delivery interval from the time of 'O' Cm cervical dilatation, whereas in the present study it was calculated from the actual time of admission of the patient irrespective of dilatation.

In the present study it was seen that the T A D I was 10.66 hours in spontaneous onset group and 7.705 hours in the induced group (Table I).

In the induced group according to Beazley and Kurjak (1972) there was considerable reduction in labour times both in primigravida and multigravida. This tallied with the present study.

In the present series the mean duration of first stage of labour was 11.34 hours in primigravida and 6.63 hours in multigravida. Friedman (1955) after analysing his observations reported that mean duration of 1st stage to be 13.50 hours in unselected primigravida and 10.50 hours in 200 selected uncomplicated primigravida.

In the present series length of 1st stage was 11.21 ± 48 hours in spontaneous onset group and 6.75 ± 3.13 hours in induced group, showing significant difference in the two groups.

Mean duration of second stage was 0.40 hours in spontaneous onset group and 0.49 hours in induced group Friedman (1955), Shirali and Bhatt (1961)—all reported the second stage to be completed in the maximum number of patients within 2 hours.

According to Friedman (1969) the mean duration of latent phase was 8.6 hours, whereas Philpott (1972) considered a

latent phase of greater than 8 hours after admission as prolonged labour and ideally should be augmented.

The readings from mean latent phase duration in present series were 5.4 ± 3.58 hours in spontaneous onset group and 3.702 ± 3.68 hours in induced group. The duration of latent phase in primigravida was 5.76 ± 4.212 hours and 3.347 ± 3.05 hours in multigravida.

Active phase was found to be 4.97 ± 2.249 hours in primigravida and 4.1 4 hours in multigravida. Active phase in spontaneous onset group was 4.23 ± 2.15 hours and 4.74 ± 2 hours in the induced group.

Active phase in ideal labour as studied by Friedman (1954) lasted approximately 4.9 hours. Friedman (1967) in his study concluded that 1.25 cms/hour and 1.5 cm/hours were the lower limits of normal progress of active phase in the primigravida and multigravida respectively.

In the present study the rate of dilatation spontaneous onset group was 1.55 cm/hours in primigravida and 1.75 cm/hours in multigravida. In the induced group, rate of dilatation was 1.28 cm/hour in primigravida and 1.78 cm/hours in multigravida. Thus these figures were near the lower limits of normal progress of Friedman's curve.

Our observation shows that multigravida had maximum normal vaginal delivery. Induced group of patients had maximum instrumental deliveries.

Induced group had more instrumental deliveries may be both due to the course for which induction was done and complication due to induction.

References

1. Beazley, J. M. and Kurjaka, A.: *Lancet*, 2: 348, 1972.

<p>2. Frielman, E. A.: Am. J. Obstet. Gynec. 68: 1568, 1954.</p> <p>3. Friedman, E. A.: Am. J. Obstet. Gynec. 69: 567, 1955.</p> <p>4. Friedman, E. A.: J. Obstet. Gynec. Brit. C'wealth. 76: 1075, 1967.</p> <p>5. Friedman, E. A.: Obstet. Gynec. 33: 2, 145, 1969.</p>	<p>6. Hendricks, C. H.: Am. J. Obstet. Gynec. 106: 1065, 1976.</p> <p>7. Philpott, R. H. and Castle, H. M. J.: Obstet. Gynec. Brit. C'wealth. 79: 592, 1972.</p> <p>8. Shirali, P. M. and Bhatt, R. V.: J. Obstet. Gynec. India, 12: 83, 1961.</p> <p>9. Studd, J. W. H.: Brit. Med. J. 3: 451, 1973.</p>
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