

ACTIVE MANAGEMENT OF LABOUR IN PATIENTS WITH MINOR DEGREE OF CEPHALOPELVIC DISPROPORTION

(A Partographic Study)

By

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SUMMARY

Labour was actively managed and studied with the help of partogram in patients with minor degree of cephalopelvic disproportion. Out of a total 363 patients, 203 were of normal pregnancy (control group) and 160 were having pregnancy with minor degree of cephalopelvic disproportion (Study group). Control group contained 60 and 143 while study group had 130 and 30 primigravidae and multigravidae respectively. All the 3 stages of labour were significantly longer while rate of cervical dilatation was significantly slower in primigravidae and multigravidae of study group. In primigravidae incidence of oxytocin infusion and forceps delivery was significantly high but rate of caesarean section, mean birth weight and 5 minute Apgar showed no significant variation from control group. In multigravidae of study group, incidence of caesarean section was significantly high and 1 and 5 minute Apgar score of babies born to these mothers was significantly low as compared to control group. The partographic management of labour and use of alert line may be helpful in reducing the incidence of operative delivery and maternal and perinatal morbidity in patients of cephalopelvic disproportion in hospital as well as peripheral units.

Introduction

Cephalopelvic disproportion of all degrees in developing countries is very common because of racial factors and more important nutritional deficiency in various stages of life. Moreover, these patients are likely to have poorest medical care in present and subsequent pregnancy. So, cephalopelvic disproportion is not re-

cognized before the patient passes in active labour and if indiscriminate caesarean section is done in these patients, they are likely to have complications like rupture uterus, retained placenta in subsequent pregnancy in unsupervised conditions. In the last decade the graphic recording of labour on composite partogram has been found very useful in early detection of abnormal progress of labour and permitting corrective management by providing a pictorial display of events of labour

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(Glick and Trussel, 1970; Philpott and Castle, 1972; Cordozo *et al.*, 1981). Therefore in present study, course and outcome of labour was studied and actively managed partographically in patients with minor degree of cephalopelvic disproportion.

Material and Methods

A total of 363 patients who attended the antenatal clinic and admitted in labour room of S.N. Hospital, Agra, during years 1984 and 1985, were selected. The patients were in active phase of labour and divided in two groups:

(I) *Control Group*: It consisted of 203 full term normal pregnant patients, 60 primigravidae and 143 multigravidae, without any medical or obstetrical risk.

(II) *Study Group*: It contained 160 patients (130 primigravidae and 30 multigravidae) having minor degree of cephalopelvic disproportion alongwith otherwise full term normal pregnancy. Selection was done by using Muller Kerr Method.

Partogram: It is a single sheet of graph upon which the features denoting the rate of progress of labour together with relevant facts concerned with the state of mother and fetus are displayed clearly (Philpott, 1972).

Our partogram measured 35 x 20 cm and had three main parts to record fetal condition, maternal condition and progress of labour.

For fetal condition: Fetal heart rate at 15 minutes interval, condition of membranes, liquor, and absence or presence/degree of caput succedaneum were noted.

For progress of labour: Cervical dilatation in cm against hour, descent of head in relation to ischial spine and number and duration of uterine contractions counted during last 10 minutes of each half an hour period were noted.

For maternal condition: Pulse at half hourly interval, blood pressure and temperature at 2 hourly interval were noted. Name and age of the patient, date and time of admission and relevant obstetrical history were also noted on the top of the partogram.

All the patients were actively managed during labour according to partographic record by amniotomy and oxytocin infusion, if needed.

Duration of all the 3 stages of labour, rate of cervical dilatation, incidence of amniotomy, oxytocin infusion and mode of delivery in study group were compared with those of control group. Similarly birth weight and Apgar scoring (1 and 5 minutes) of baby were compared in the two groups.

Results and Discussion

The duration of labour stagewise, rate of cervical dilatation mode of delivery, birth weight, and 1 and 5 minute Apgar scoring of baby in control and study groups have been summarized in Table (I, II, III).

In primigravidae: All the stages of labour were significantly longer and rate of cervical dilation was significantly slower in study group as compared to control group. This indicate that graphic pattern of labour differentiates patients with cephalopelvic disproportion precisely and these patients can be carefully evaluated, if the progress of labour becomes slower than the normal. Hence, on the basis of graphicostatistical analysis of progress of labour in these patients an alert line can be drawn which starts at 3 cm cervical dilatation and progresses at the rate of 0.9 cm/hr. This is in accordance with the alert line suggested by

TABLE I Course of Labour in Control (Normal) and Study (with Minor Degree of cephalopelvic Disproportion) Group

Groups	No. of cases	Duration of Labour (Stagewise) Mean \pm S.D.			Rate of cervical dilatation in cm./hr. (Mean \pm S.D.)
		First (Hour)	Second (Min.)	Third (Min.)	
<i>In Primigravida</i>					
Control Study	60	7.83 \pm 1.09	30.33 \pm 6.41	14.16 \pm 5.53	1.18 \pm 0.21
v/s Control	130	9.77 \pm 1.39	45.82 \pm 9.07	16.88 \pm 7.39	0.92 \pm 0.18
		<i>p</i>			
		9.55	11.92	2.51	8.42
		<0.001	<0.001	<0.05	<0.001
<i>In Multigravida</i>					
Control Study	143	5.11 \pm 1.15	12.84 \pm 5.27	7.98 \pm 5.03	1.54 \pm 0.20
v/s Control	30	7.23 \pm 1.71	19.50 \pm 6.78	12.66 \pm 8.89	1.17 \pm 0.27
		<i>p</i>			
		8.34	5.95	3.95	8.36
		<0.001	<0.001	<0.001	<0.001

TABLE II Fetal Outcome in Control (Normal) and Study (with Minor Degree of Cephalopelvic Disproportion) Groups

Groups	No. of cases	Birth Weight (Kg.)		Apgar Score	
		Mean	S.D.	1 Minute	5 Minute
<i>In Primigravida</i>					
Control Study	60	3.32	0.34	9.80	0.47
v/s Control	130	3.33	0.27	9.20	1.43
		<i>p</i>			
		0.22		3.16	1.63
		>0.05		<0.05	>0.05
<i>In Multigravida</i>					
Control Study	143	3.35	0.32	9.44	0.80
v/s Control	30	3.41	0.39	8.86	1.66
		<i>p</i>			
		0.88		2.87	2.42
		>0.05		<0.05	<0.05

TABLE III Amniotomy, Oxytocin Infusion and Mode of Delivery in Control (Normal) and Study (with Minor Degree of Cephalopelvic Disproportion) Groups

Groups	No. of cases	Amniotomy				Oxytocin Infusion				Mode of Delivery							
		No.		%		No.		%		No.		%		No.		%	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
<i>In Primigravida</i>																	
Control	60	8	13.33	5	8.33	6	10.0	3	5.0	51	85.00						
Study	130	20	15.38	30	23.07	30	23.07	13	10.0	87	66.92						
Control			0.38		2.87		2.44		1.29		2.92						
v/s																	
Study	'p'		>0.05		<0.05		<0.05		>0.05		<0.05						
<i>In Multigravida</i>																	
Control	143	20	13.99	8	5.59	5	3.50	2	1.40	136	95.10						
Study	30	8	26.66	3	10.00	4	13.33	5	16.66	21	70.00						
Control			1.59		0.76		1.54		2.22		2.93						
v/s																	
Study	'p'		>0.05		>0.05		>0.05		<0.05		<0.05						

other authors (Philpott and Castle, 1972; Daftary and Mhatre, 1977).

In the study group, incidence of oxytocin infusion was significantly higher than control while 66.92 per cent patients delivered normally and 23.07 per cent by low forceps application. Only 10 per cent of patients needed caesarean section. Indication of caesarean section was fetal distress and failure to progress after 2 hours of oxytocin infusion. Mean birth weight and 5 minute Apgar score of infants born to these patients showed no significant difference from control group.

This suggests that in primigravidae patients with minor degree of cephalopelvic disproportion, the failure to progress in labour is mainly due to uterine inertia and majority of these patients can be made to achieve vaginal delivery by carefully controlled acceleration of labour with the help of partogram without increase in perinatal morbidity and mortality.

In multigravidae: All the 3 stages of labour were significantly longer and rate of cervical dilatation was significantly slower in study group as compared to control group. This again signifies the role of partogram in diagnosis of cephalopelvic disproportion. Although, incidence of amniotomy, oxytocin infusion was higher but this showed no significant difference from control group. However, incidence of caesarean section was significantly higher in this group. Similarly birth weight was not significantly different from control but 1 and 5 minute Apgar scores were significantly lower than the control multigravidae.

These results suggest that in multigravidae patients, who have delivered previously normally vaginally, the problem of cephalopelvic disproportion is associat-

ed with more incidence of operative intervention and perinatal morbidity. Therefore, they require more careful evaluation during labour which can be done easily and precisely by partogram as advocated by other workers also (Earn, 1982; Hunter *et al*, 1983).

References

1. Cardozo, L. D., Gibb, D. M. F., Studd, J. W. W., Vasant, R. V. and Cooper, D. J.: *Progress in Gynec. Obstet.* 2: 67 1981.
2. Daftary, S. N. and Mhatre, P. N.: *J. Obstet. Gynec. India*, 27: 687 1977.
3. Earn, A. A.: *Amer. J. Obstet. Gynaec.* 144: 858, 1982.
4. Glick, E. and Trussel, R. R.: *J. Obstet. Gynec. Brit. C'wth.*, 77: 1003 1970.
5. Hunter, D. J. S., Enkin, M. W., Sargeant, E. J., Wilbinson, J. and Tugwell, P.: *Amer. J. Obstet. Gynaec.* 145: 189, 1983.
6. Philpott, R. H.: *Brit. Med. J.*, 4: 163, 1972.
7. Philpott, R. H. and Castle, W. M.: *J. Obstet. Gynaec. Brit. C'wth.*, 79: 592, 1972.