



ORIGINAL RESEARCH PAPER

Obstetrics & Gynaecology

PARTOGRAPHY: EVALUATION AND CURRENT STATUS

KEY WORDS: Partograph, Primigravida, Multigravida, Caesarean section, Normal labour.

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ABSTRACT

Background: The partograph, a graphical recording of progress of labour and salient conditions of the mother and the fetus, has been used since 1970 to detect labour that is not progressing normally, to indicate when augmentation is appropriate and to recognise CPD long before labour becomes obstructed.

Methods: This retrospective analytical study was undertaken in the department of Obstetrics and Gynaecology, Smt. SCL Hospital, Smt. NHLMMC during period of September 2020 to Feb 2021. Women who presented with labour pain were included in the study.

Results: The present study is an account of the usefulness of the partogram in labour of primigravidae and multigravidae patients. Most of the patients were between 20-30 years age. Around 50% of primigravidae and 20% of multigravidae needed intervention in one or other form for the abnormalities detected by partogram.

Conclusion: Partograph serves as a sensitive index for predicting progress and probable outcome of labour. Labour in primipara needs careful watch for the diagnosis of any deviation of the progress of labour, multipara are also high risk patients and risk increase as parity increase so need to watch for the complications associated with labour.

INTRODUCTION

Partograph is a graphical record of key data (maternal and fetal) during labour entered against time on a single sheet of paper. Relevant measurements include statistics such as cervical dilation, fetal heart rate, uterine contractions etc duration of labour and vital signs.

An average of 450 women die for every 100000 live birth in the developing world.(1)

The Partograph serves as an “early warning system” and assist in early decision on transfer, augmentation and termination, it also increase the quality and regularity all observation on the fetus and mother in labour and aids early recognition of problem with either.

To ensure that all pregnant women are screened by supervised and appropriately trained non physician health workers where appropriate, with relevant technology, to identify those at risk; and to provide prenatal care and care during labour as expeditiously as possible.(2)

WHO model partograph was devised which represents synthesized and simplified compromise including the best features of several partographs.(3,4)

Objective of this study is that partography is a sensitive index for predicting progress of labour and helps in better neonatal outcome.

METHODS

This observational study was undertaken in the department of Obstetrics and Gynaecology, Smt. SCL Hospital, Smt. NHLMMC during period of September 2020 to Feb 2021. Women who presented with labour pain were included in the study. Data entry done in Microsoft Excel and calculation done manually.

The present study was conducted on 1598 patients. 868 of

which were primigravidae and 730 were multigravidae (conceived for the second time or more) all being admitted with labor pains.

INCLUSION CRITERIA-

All cases had Full term pregnancy, Vertex presentation, Cervical dilation on admission of 3 cm or less

EXCLUSION CRITERIA-

Cases associated with complications like preeclampsia, eclampsia, ante partum hemorrhage, breech presentation, multiple presentation, induced labour, Obvious pelvic disproportion.

Partogram designed by WHO used for intrapartum monitoring of labor in our patients. Partogram is a graphical representation of the events of labor plotted against time in hours. On admission detailed history and clinical examination was done.

Active phase - is from 3-10 cm dilatation. The graph consists of cm's vs time. Vertically 0-10 figures are there in which each square indicates one cm dilatation and horizontally 0-24 figures are there in which each square represents one hour. First vaginal examination is done on admission and repeated every four hours thereafter. Dilatation is plotted with an "X" mark.

When labor progresses well, the dilatation should not cross to the right of alert line. If admission takes place in active phase, the dilatation is immediately plotted on the alert line and also when labor goes from latent to active phase, plotting must be transferred to the alert line by a broken line, this zone is referred to as "Transformation zone". The broken line is not the part of progress of labour.

DISCUSSION

A total number of 1598 women delivered during the defined time period in our institute. All components of Partogram are

Carefully observed and recorded. All the observations are presented in tabular form.

Table no. 1 Total admitted women divide in primigravida and multigravida on bases of age wise , registration wise, cervical dilation wise and station wise parameters.

Age in years	Primigravidae	Multigravidae
<20	54	00
21-30	664	596
>30	150	134
Registered cases	742	610
Emergency cases	126	120
Cervical dilation		
1 finger	399	147
2 finger	261	306
3 cm	208	277
Station		
-2	190	219
-1	303	219
0	246	146
1	86	109
2	43	37

Table no. 2 - Labour abnormalities in first stage-

	Primigravidae (n=868)	Multigravidae (n=730)
Prolonged latent phase	4	3
Protracted active phase	8	5
Secondary arrest of dilatation	6	1
Precipitate labour	3	1

Criteria for diagnosis of prolonged latent phase for nullipara is >20hours and that of multipara is >14hours. Criteria for protracted descent is <1cm/hr for nullipara and <2cm/hr for multipara . Criteria for secondary arrest of dilatation is cessation of dilation for >2hours . Criteria of precipitate labour for nullipara dilation and descent >5cm/hr and for multipara is dilatation and descent >10cm/hr

This table shows various abnormalities during first stage of labor and by this study we came to conclusion that protracted active phase present as the most common abnormality of first stage in both the groups and precipitate labor as the least common.

Table no. 3 - abnormalities in second stage-

	Primigravidae (n=868)	Multigravidae (n=730)
Failure of descent	3	1
Protracted descent	3	2
Arrest of descent	5	3

This table shows labour abnormalities present in second stage and its comparison with other studies. All the types of arrest disorders are noticed in second stage in primigravidae in almost equal ratio but in multigravidae protracted descent and arrest of descent contribute the most.

Table no. 4 -Various intervention and mode of delivery-

Mode of delivery	Primi (n=868)	Multi (n=730)
Normal delivery	464	572
Normal delivery+stripping+ARM+oxytocin drip	80	72
Normal delivery +amniotomy + oxytocin drip	292	70
Caesarean section	32	16

This table shows various interventions and mode of delivery. In this study we observed that 48% of the primigravidae required intervention in some or the other form in comparison to 21% of the multigravidae. Among 48

primigravidae patients who required intervention, 6.25% required stripping along with amniotomy and oxytocin drip in the form of intervention, 41% required amniotomy and oxytocin drip and 52% delivered by cesarean section.

Among 21 multigravidae patients who required intervention, 14% required stripping, 61% required amniotomy and oxytocin drip and 23% delivered by cesarean section. 52% of primigravidae delivered vaginally without any intervention as compared to 79% of multigravidae.

Table no. 5 - mode of delivery according to zone of partograph on admission-

Zone in Partogram at time of full dilatation	Normal delivery	Normal delivery with induction	Caesarean section
Primigravidae			
Zone A (to the left of alert line)	54%	16%	18%
Zone B (between alert & action line)	0%	8%	4%
Zone C (to the right of action line)	0%	0%	0%
Multigravidae			
Zone A (left of alert line)	81%	12%	4%
Zone B (between alert & action line)	0%	3%	0%
Zone C (to the right to action line)	0%	0%	0%

This table shows various modes of delivery according to zone of partograph in which the patient presents at the time of full dilatation. In this study we observed that 16% of primigravidae presenting in zone A delivered by cesarean section as compared to 5% of multigravidae. Among 75% of primigravidae delivered vaginally, 30.6% required intervention in the form of induction of labour and among multigravidae 95% patients delivered vaginally, 16.8% required induction of labor.

RESULTS

Partogram serves as a sensitive index for predicting progress and probable outcome of labour. The study of different components of Partogram can serve as a ready tool to evaluate progress of labour at one glance only, and help in differentiating the normal course of labour from abnormal one and to act accordingly.

It summarises the improvement in labour outcome that were achieved in the multicentre trial of the WHO partograph. Prolonged labour, augmented labour, caesarean section and intrapartum fetal deaths all fell.

Labour in primipara needs careful watch for the diagnosis of any deviation of the progress of labour, effacement precedes dilatation . In multipara are also high risk patients, effacement and dilatation occur simultaneously, risk increase as parity increase so need to watch for the complications associated with labour.

Table no. 2 shows various abnormalities during first stage of labor and by this study we came to conclusion that protracted active phase present as the most common abnormality of first stage in both the groups and precipitate labor as the least common.

Table no.3 shows labour abnormalities present in second stage and its comparison with other studies. All the types of arrest disorders are noticed in second stage in primigravidae in almost equal ratio but in multigravidae protracted descent and arrest of descent contribute the most.

Table no. 4 observed that 48% of the primigravidae required

intervention in some or the other form in comparison to 21% of the multigravidae. Among 48 primigravidae patients who required intervention, 6.25% required stripping along with amniotomy and oxytocin drip in the form of intervention, 41% required amniotomy and oxytocin drip and 52% delivered by cesarean section.

Among 21 multigravidae patients who required intervention, 14% required stripping, 61% required amniotomy and oxytocin drip and 23% delivered by cesarean section. 52% of primigravidae delivered vaginally without any intervention as compared to 79% of multigravidae.

Table no. 5 shows various modes of delivery according to zone of partograph in which the patient presents at the time of full dilatation. In this study we observed that 16% of primigravidae presenting in zone A delivered by cesarean section as compared to 5% of multigravidae. Among 75% of primigravidae delivered vaginally, 30.6% required intervention in the form of induction of labour and among multigravidae 95% patients delivered vaginally, 16.8% required induction of labor.

Thus Partogram act as a watch dog in the progress of labour and promptly detects any deviation from normal and hence helps to prevent maternal and fetal complications.

Simplified version of Partogram can be adopted even in primary centers where normal deliveries are conducted.

CONCLUSION

Partogram serves as a sensitive index for predicting progress and probable outcome of labor. The study of different components of partogram can serve as a ready tool to evaluate progress of labor at one glance only, and help in differentiating the normal course of labor from abnormal one and act accordingly.

From the above study, i have come to conclusion that even after proper and judicious selection of primi's to undergo labor expecting a normal vaginal delivery -their progress of labor was unpredictable and more than ¼ of cases did require some interference. Therefore it is proved that all primis should have a hospital delivery, a hospital which is well equipped to provide basic primary care and have facilities for operative delivery or for transferring the patient to a well equipped center. Grand multiparas are high risk patients and risk increases as the parity increases and have many complications during pregnancy, during labor and in the post partum period, which leads to increased maternal morbidity.

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