

A Retrospective Observational Study Evaluating Partogram in Management of Labor in Patients with Previous LSCS

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Abstract

Aim: The aim of the present study was to assess the progress of labor in all ANCs with previous LSCS consenting for vaginal delivery using partogram and to note the fetomaternal outcome.

Methods: A retrospective observational study was conducted in the Department of Obstetrics and Gynecology, Patna Medical College and Hospital, Patna, Bihar, India for June 2016 to May 2017 in 100 patients with previous LSCS for trial of labor who fulfilled the inclusion criteria. Detailed history regarding age, parity, duration of pregnancy and labor pain was taken from every patient.

Results: Our study included a total of 100 patients with average age 26.04 years with minimum age of a patient being 20 years while the maximum age was 34 years. Majority of the women belonged to 18-24 years. In present study 62 out of 100 patients delivered at the gestational age of 37-40 weeks (82%). Out of these the patients who underwent repeat LSCS were 62 (62%) and those who delivered vaginally were 28 (28%). Out of 62 patients who undergone repeat LSCS, 8 patients had scar dehiscence, 14 patients were taken for LSCS due to non-progression of labor and 40 patients had fetal distress.

Conclusion: The partogram was able to reduce fetomaternal complications and help in early detection of deviation from normal labor thus guiding in timely intervention. The subjects who crossed alert line in partogram were taken for LSCS thus indicating higher efficacy of partogram. With the use of partogram maternal complications in patients with previous LSCS like obstructed labor, prolonged labor, scar dehiscence and scar rupture and other complications like PPH, cervical tears/vaginal lacerations etc. can be prevented.

Keywords: labor, LSCS, partogram, fetomaternal outcome

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Introduction

Labor is a dynamic phenomenon characterized by progressive increase in the frequency, intensity and duration of uterine contractions with progressive dilatation and effacement of the cervix along with the descent of the fetus through the birth canal. This physiologic process may become pathologic at times and failure to recognize this would result in prolonged labor with resultant increase in the morbidity and mortality of both the mother & fetus. Hence inadequate care during labour results in threats to the life of the mother and the fetus. Prolonged labor has become a rarity in developed countries but it still poses a problem in developing countries causing increase in maternal and perinatal morbidity and mortality. Prolonged labor is commonly due to cephalopelvic disproportion which may result in obstructed labor, maternal dehydration, exhaustion, uterine rupture, post partum hemorrhage etc. In some, abnormal progress

of labor is often due to inefficient uterine contraction. [1]

When deviations in labor progress are recognized early and corrected, complications are prevented and normal labor and delivery can occur. [2] The partogram as it is in use today, was first introduced by Friedman in the year 1954. He was the first person to make a graphic display of cervical dilatation against time in labor. He carried out work on a large series of patients and worked out a graphic record of the progress of labor. This was based on the cervical dilatation – time function as Friedman concluded that of all the observable features of labor, cervical dilatation was the most reliable and seemed to reflect the overall progress of the labor best. [3]

Partograph is a visual/graphical representation of related values or events over the course of labor. It

is an important tool for managing labor. The first graphic assessment of progress of labor was designed by Friedman in 1954, and further improved by Philpott and Castle. [4] In response to the recommendations of the Safe Motherhood, WHO produced a partograph, and tested its practical value to reduce maternal and perinatal morbidity and mortality. [5] Partograph use is recommended for routine monitoring of labor, and helps the health care provider in identifying slow progress in labor, and may help initiate appropriate interventions to prevent prolonged and obstructed labour. [6,7] The partograph is an inexpensive tool designed to provide a continuous pictorial overview of labor and has been shown to improve outcomes when used to monitor and manage labor. It is a single sheet of paper which includes information about the fetus' heart rate, uterine contraction, any drugs used and other important factors that could help avoid extensive descriptive notes. It is a practical device when employed in a busy labor room with many cases, but limited personnel to screen for abnormal labor.

The aim of the present study was to assess the progress of labor in all ANCs with previous LSCS consenting for vaginal delivery using portogram and to note the fetomaternal outcome.

Materials and Methods

A retrospective observational study was conducted in the Department of Obstetrics and Gynecology, Patna Medical College and Hospital, Patna, Bihar, India for June 2016 to May 2017 in 100 patients with previous LSCS for trial of labor who fulfilled the

inclusion criteria. Detailed history regarding age, parity, duration of pregnancy and labor pain was taken from every patient. Examination was done including general physical examination, abdominal examination for fundal height, lie, presentation, engagement, amount of liquor, palpable uterine contraction and fetal heart rate. Pelvic examination was done for pelvic assessment and Bishop score. All the data were entered in a predesigned proforma. The course of labor in all the patients were recorded on WHO modified partograph. Individual partograph was studied to know the various aspects related to the course of labor and the role of partograph in influencing decision making in abnormal progress of labor was assessed.

Patients with previous LSCS (previous LSCS due to non-recurrent indications like Breech, fetal compromise, abruptio placenta, cord prolapse etc.), adequate pelvis and cephalic presentation in whom the consultant decided to give normal trial of labor attending, Patna Medical College and Hospital, Patna, Bihar, India were selected for the study and explained pros and cons of vaginal birth after cesarean section (VBAC). Informed written consent was taken from all consenting patients. Patients with malpresentation, CPD, contracted pelvis, more than previous LSCS, Previous classical CS, previous CS due to prolonged labor or obstructed labor, previous inverted T incision, pregnancy occurring too soon after cesarean section, Pre- term labor, PPRM, placenta previa and Pre-eclampsia/ Eclampsia were excluded from the study.

Results

Table 1: Age distribution

Age in years	N	%
18-24	62	62
25-29	28	28
30-35	10	10

Our study included a total of 100 patients with average age 26.04 years with minimum age of a patient being 20 years while the maximum age was 34 years. Majority of the women belonged to 18-24 years.

Table 2: Gestational age in weeks at the time of delivery and mode of delivery

Gestational age	N	%
37-40	82	82
>40	18	18
Mode of delivery		
LSCS	62	62
Normal Vaginal delivery	28	28
Instrumental delivery	10	10

In present study 62 out of 100 patients delivered at the gestational age of 37-40 weeks (82%). Out of these the patients who underwent repeat LSCS were 62 (62%) and those who delivered vaginally were 28 (28%).

Table 3: Indications for LSCS

Indications for LSCS	N
FETAL DISTRESS	40
NON PROGRESSION OF LABOR	14
SCAR DEHISCENCE	8
Total	62

Out of 62 patients who undergone repeat LSCS, 8 patients had scar dehiscence, 14 patients were taken for LSCS due to non-progression of labor and 40 patients had fetal distress.

Discussion

The partogram is a tool that enables midwives and obstetricians to record maternal and fetal observations simply and pictorially. Different designs of the partogram exist and Cartmill and Thornton [8] hypothesized that the way a partogram is presented may affect a midwife's or obstetrician's perception of the labor progress, and thus, influence the decision-making. This hypothesis has received some support from others Lavender et al [9] ; Tay and Yong. [10] Although the WHO [11] recommended universal application of the partogram, the evidence to support this recommendation is limited. Even after the WHO simplified the partogram model to make it more user-friendly in 2000, the partogram is still rarely used in low-resource areas, and when actually used, it is rarely interpreted correctly.

Our study included a total of 100 patients with average age 26.04 years with minimum age of a patient being 20 years while the maximum age was 34 years. Majority of the women belonged to 18-24 years. In present study 62 out of 100 patients delivered at the gestational age of 37-40 weeks (82%). Out of these the patients who underwent repeat LSCS were 62 (62%) and those who delivered vaginally were 28 (28%). Out of 62 patients who undergone repeat LSCS, 8 patients had scar dehiscence, 14 patients were taken for LSCS due to non-progression of labor and 40 patients had fetal distress. Once the labor curve moves to the right of the warning line, newborn morbidity rises, and it rises dramatically as the labor curve crosses the action line. As a result, the partogram's alert line indicates a high risk of respiratory distress in the fetus. The use of partogram decreases the number of fresh stillbirths and perinatal deaths. [12] Thus, effective vaginal delivery was achieved after a thorough selection of instances for trial of labor in patients with past LSCS. Furthermore, with improved infrastructure and prenatal and postnatal treatment for these patients, maternal and perinatal morbidity and death can be successfully minimized. [13,14] Debdas [10] believes that the partogram is simply too time-consuming for overburdened clinicians and too complicated for many skilled birth attendants — many of whom have not received

higher education. The paperless partogram proposed by Dr. Debdas is a low-skill method for preventing abnormal labor.

Conclusion

The partogram was able to reduce fetomaternal complications and help in early detection of deviation from normal labor thus guiding in timely intervention. The subjects who crossed alert line in partogram were taken for LSCS thus indicating higher efficacy of partogram. With the use of partogram maternal complications in patients with previous LSCS like obstructed labor, prolonged labor, scar dehiscence and scar rupture and other complications like PPH, cervical tears/vaginal lacerations etc. can be prevented. The neonatal morbidity increases as the labour curve moves to the right of the alert line and it is significantly increased as the labor curve crosses the action line. Thus the alert line on the partogram indicates a high risk for the fetus to develop respiratory distress. Use of partogram reduces the incidence of fresh still birth and perinatal mortality.

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