Preventing Prolonged Labor by Using Partograph

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Abstract

The partograph can be used to assess the progress of labor and to identify when intervention is necessary. Studies have shown that using the partograph can be highly effective in reducing complications from prolonged labor for the mother (postpartum hemorrhage, sepsis, uterine rupture, etc.) and for the newborn (death, anoxia, infections, etc.). It has shown to be effective in preventing prolonged labour, in reducing operative intervention and in improving the neonatal outcome. Prolonged labour, augmented labor, caesarean sections and intrapartum fetal deaths were reduced with the use of the partograph.

INTRODUCTION

Prolonged labour in the developing countries is commonly due to cephalopelvic disproportion (CPD), which may result in obstructed labour, maternal dehydration, exhaustion, uterine rupture and vesico-vaginal fistula. In countries where CPD is not prevalent, abnormal progress of labour is often due to inefficient uterine action.

Early detection of abnormal progress of labour and the prevention of prolonged labour significantly reduce the risk of postpartum haemorrhage and sepsis, and eliminate obstructed labour, uterine rupture and thereby reduce the maternal mortality ₁.

USES OF PARTOGRAPH

The partograph has been in use since 1970 in a number of countries, and used extensively in many centres ^{27374757677879710711712713.} It has been found to be inexpensive, effective and pragmatic in a variety of different settings including developed and developing counties. It has shown to be effective in preventing prolonged labour, in reducing operative intervention and in improving the neonatal outcome ^{276714715716717.} Prolonged labour, augmented labor, caesarean sections and intrapartum fetal deaths were reduced ¹⁸⁷19[.]

The use of a partogram for the management of labour has been shown to be beneficial in that it clearly differentiates normal from abnormal progress in labor and identifies women likely to require intervention.

THE PARTOGRAPH

The partograph, a sigmoid curve, is a tool that can be used to assess the progress of labor and to identify when intervention is necessary. It is a graphical record of cervical dilatation in centimeters against duration of labor in hours. Studies have shown that using the partograph can be highly effective in reducing complications from prolonged labor for the mother (postpartum hemorrhage, sepsis, uterine rupture, etc.) and for the newborn (death, anoxia, infections, etc.). In a WHO multicentre trial improvements in maternal and fetal mortality and morbidity took place among both nulliparous and multiparous women after the use of a partograph ¹⁹.

Figure 1



Active management of labor advocates early recognition of non-progressive labor. This can be done by using a partograph, or graphical depiction of a labor "curve". The first stage of labor has two phases, a latent phase and an active phase. In primigravidae, the latent phase is often long (about 8 hours) during which effacement occurs. In multigravidae, the latent phase is short (about 4 hours) and effacement and dilatation occur simultaneously. Dilatation of the cervix at the rate of 1 cm per hour in primigravidae and 1.5 cm in multigravidae beyond 3 cm dilatation is considered satisfactory. The alert line drawn from 3 cm to 10 cm in active stage represents the rate of dilatation. Therefore, if cervical dilatation moves to the right of the alert line, it is slow and indication of delay in labour. If the woman is in a health centre, she should be transferred to hospital: if in hospital, she should be observed more frequently.

A partograph must be started only when a women is in labor. In the latent phase (cervix dilatation not more than 2 cm), she should have one contraction in 10 minutes, each lasting 20 seconds or more. In the active phase (cervix dilatation more than 3 cm), she should have two or more contractions in 10 minutes, each lasting 20 seconds or more.

E.A Friedman in 1954 first described a normal cervical dilatation pattern $_{20}$. Various authors have developed similar nomograms in many geographical areas. None of these have shown significant differences between ethnic groups $_{5}$, $_{7,21,22,23,24,25,26}$. This can be used at all levels of obstetric care by basic care providers who are trained to assess cervical dilatation. When used properly, it helps to detect cases of abnormal labour without delay, thus allowing timely intervention.

The WHO model of the partograph represents in some ways a synthesized and simplified compromise, which includes the best features of several partographs 27374778711723727728729730. The fetal condition, the progress of labour and the maternal condition are the three components of the partogram.

The partograph is used to plot the following parameters for the progress of labor: cervical dilatation, descent of fetal head, and uterine contractions. It will also be used for monitoring fetal conditions with the following parameters: fetal heart rate, membranes and liquor and moulding of fetal skull. Additionally, the partograph can be used to monitor maternal condition: pulse, blood pressure, temperature, urine, drugs, IV fluids, and oxytocin.

Labour is monitored by observing the progressive effacement and dilatation of the cervix and the descent of the presenting part against time in a chronological manner. The frequency and duration of uterine contractions is also noted. The maternal condition is monitored by observing the pulse, blood pressure, temperature and hydration. In addition, the use of anesthetic and oxytocic drugs can be recorded in the partogram. The fetus is monitored closely on the partograph by regular observation of the fetal heart rate, the liquor, and the moulding of the fetal skull bones. A gradual increase in the basal FHR or prolonged bradycardia indicates the possibility of fetal distress. The colour of the amniotic fluid if heavily stained with meconium (thick or grade 3), with scanty fluid or fresh passage of meconium, or the absence of amniotic fluid at the time of the rupture of membranes is suggestive of possible hypoxia.

CONCLUSION

The partograph is used to assess the progress of labor and to identify when intervention is necessary. Studies have shown that using the partograph can be highly effective in reducing complications from prolonged labor for the mother and for the newborn. Prolonged labour, augmented labor, caesarean sections/ operative interventions, neonatal morbidity and intrapartum fetal deaths were reduced with the use of the partograph. Easy and early recognition of poor progress of labour (with the use of partograph) and the prevention of prolonged labour significantly reduce the risk of postpartum haemorrhage and sepsis, and eliminate obstructed labour, uterine rupture and thereby reduce the maternal mortality

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