

# Neonatal outcome following active management of labour among primigravida

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## Abstract

A hospital case series study of neonatal outcome following active management of labour among primigravida women admitted in JSS medical college hospital.

### Aim and Objectives:

1. To know neonatal outcome following active management of labour.
2. To know the cause for the neonatal admission.

**Material and methods:** Randomized clinical study of neonatal outcome following active management of labour in JSS medical college. The trial studied the neonatal outcome of total 200 women who were treated with amniotomy alone, oxytocin alone and both oxytocin & amniotomy combine.

**Results :** Total 7.5% of neonates were admitted in NICU. 6 out of 15 (40%) neonates were admitted for birth asphyxia. 3 out of 15 (20%) neonates developed hyperbilirubinemia, 4 out of 15 neonates (26.7%) developed septicemia, and in 3% of neonates the APGAR score was below 7 at 5min.

**Key words:** Neonatal outcome, active labour, primigravida.

## Introduction

Labour is an important event with a unique experience, exclusively in a woman's life which gives her the greatest satisfaction by delivering her child. The wonder creation of master craftsman<sup>[1]</sup>. It has long been appreciated that labour itself can have an adverse effect on the fetus. Normal fetuses whose mothers have no medical or obstetric complications are capable of undergoing the normal stresses of labour and delivery without serious sequelae. However even a normal fetus whose mother undergoes an extremely prolonged or difficult labour or whose delivery is inappropriately managed may succumb to these stresses and be depressed, damaged or even die.

The physiological process of labour can have varying effects on the fetus, depending on the initial fetal status when labour begins. With each uterine

contraction, there is a decrease in or actual stoppage of intervillous blood flow, which may result in fetal hypoxia. In addition, fetal head compression or umbilical cord compression may aggravate or accentuate the fetal distress. Prolonged labour was known to be associated with maternal infection, obstructed labour, postpartum hemorrhage, uterine rupture, which in turn increases maternal and perinatal morbidity and may end with mortality<sup>[2]</sup>.

## Material and Methods

A hospital based case study among 200 primigravida women in established spontaneous labour between 37- 42 wks of gestation with intact membrane and with early rupture of membrane were entered into the trial.

### Inclusion criteria:

1. Primi with spontaneous onset of labour.

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2. Uneventfull present pregnancy with single foetus of cephalic presentation.
3. Normal foetal heart rate at admission by auscultation.
4. Partogram is maintained from the time of admission to the time of delivery.

#### Exclusion criteria

1. Primigravida women with medical or obstetrics complication.
2. Primigravida with CPD.

Methods adopted were detail case history, general physical, systemic, obstetric and pelvic examination with routine investigations. Soon after the birth of baby the following points should be noted apgar score, Signs of asphyxia, if any, cord round the neck, excessive caput or moulding.

#### Results

Only 15 out of 200 neonates were admitted to NICU (7.5%) The cause for NICU admission were Birth asphyxia 40% (6 out of 15neonates), septicemia 26% (4 out of 15 neonates), Hyperbilirubinemia 20% (3 out of 15 neonates), MAS 13.3 % (2 out of 15 neonates) [Table 1-3, Graph 1].

**Table 1. CAUSE OF ADMISSION TO NEONATAL CARE UNIT**

Cause of admission to NICU	Number	Percentage (%)
Birth asphyxia	6	40
Septicemia	4	26.7
Hyperbilirubinemia	3	20
Meconium aspiration syndrome	2	13.3
Total	15	100.0

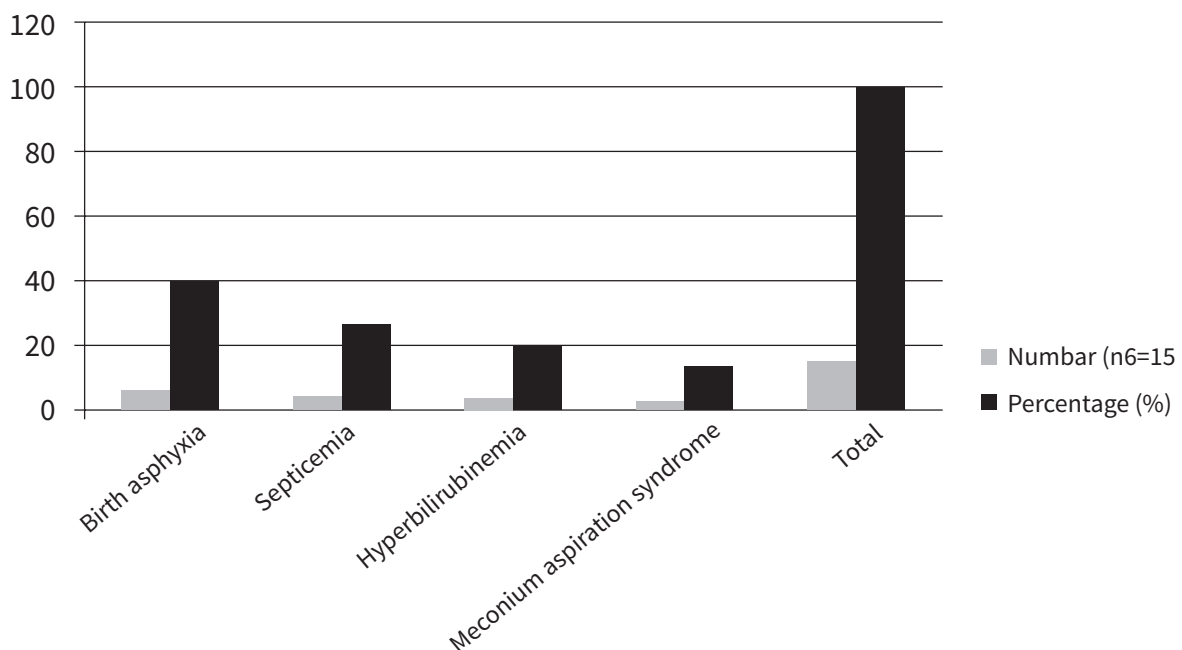
**Table 2. DISTRIBUTION OF WEIGHT OF THE BABY**

Weight in kg	Number of babies	Percentage
2.5 To 3	145	72.5
3 To 3.5	50	25
3.5 To 4	05	2.5
Total	200	100

**Table 3. COLOUR OF THE LIQUOR AFTER AMNIOTOMY**

Colour of liquor	Number of patients	Percentage
Clear	187	93.5
Thin meconium	08	4.0
Thick meconium	05	2.5
Total	200	100

**Graph 1. Bar diagram representing the Cause of admission to neonatal care unit**



## Discussion

Study of Goyallatika, Kapoor M and Agarwal et al in actively managed 200 patients, none of the baby born to mothers in study group had 1 minute APGAR below 7/10, compare to 40% in control group. Similarly 4% newborns delivered by assisted mode had Apgar below 7/10 compared to none in spontaneous vaginally delivered group<sup>[1]</sup>. Tripathy S.N. and Dalal R. also reported a significant decrease in duration of labour and there by improved neonatal outcome. In study of active management of labour conducted by Dr. Peter Boylan noted that fetal deaths and asphyxia neonatal death were so infrequent as to preclude comparative analysis, although admission to NICU were increased during study<sup>[3,4]</sup>.

In study by Dr. S. Chua and Dr. Arulkumaran shows that introduction of partograph with an agreed active management of labour reduced significantly the duration of labour thereby decreasing the fetal mortality and morbidity in both nulliparous and multiparous women<sup>[5]</sup>. Among the 200 patients analysed 60% of women belong to middle socioeconomic status, 40% belong to low socioeconomic status. Age of mother was between 15- 20 yrs in 45.50%, between 21-30 yrs 54.50%. The colour of the liquor after amniotomy was clear in 93.5%, thin meconium in 4.0% & thick meconium in 2.5%. In maximum patients there was clear liquor. The mean total duration of labour with amniotomy alone was 5.68 hrs, amniotomy with oxytocin 5.45hrs, only oxytocin 6.18 hr. The maximum mean duration of labour was 6.18 hrs in case of only oxytocin and minimum duration of 5.45 hrs in cases of amniotomy with oxytocin. All patients delivered within 12 hrs. The distribution of weight of the baby: maximum weight was between 2.5 to 3 kg (72.5%), followed by 3 to 3.5 kg (25%), and minimum number of babies were between 3.5 to 4 kg (2.5%). The mean weight was between 2.9 kg.

7.5% of the neonates were admitted to NICU and it was observed that 40% were due to birth asphyxia followed by septicemia. 26.7% and minimum of 13.3% was due to MAS syndrome. The neonatal admission and the cause for admission in present study was 7.5% which is more or less correlates the study of Akoury et al (7.8%)<sup>[6]</sup> 4% by frigoletto et al, 4%<sup>[7]</sup>, by lopezzeno et al<sup>[8]</sup> and 4% by Roger et

al<sup>[7]</sup>. In present study 5 min apgar below 7 was 3% compared to 2% by Rogers et al<sup>[9]</sup>, 0.3% by Lopez Zeno and 0.4% by Frigoletto et al. The meconium aspiration syndrome in present study was 1% as compared to 0.6% by Akoury et al<sup>[6]</sup>.

## Conclusion

Incidence of meconium stained liquor after amniotomy was 6.5%. 97% of babies had satisfactory APGAR score and in 3% APGAR score was less than 7 at 5 minutes. Incidence of neonatal admission was 7.5%, the main indication for admission was birth asphyxia i.e. 6 out of 15 neonates (40%). The mean birth weight was 2.9kg. Active management of labour promises normal delivery to an increasing number with consequent reduction in operative delivery, complications of labour and also number of neonates with low APGAR score. Active management of labour in normal primigravida reduces the duration of labour, this in turn results in reduction of maternal discomfort, anxiety and better neonatal outcome.

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