

# Obstetrical Outcome in Primigravida with Unengaged Fetal Head at Spontaneous Onset of Labour at Term Gestation

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**Abstract:** ***Introduction:** Primigravida are at risk patients: their parturition capacity have never been tested. Unengaged head at onset of labour are considered to be at high risk for operative delivery. **Objective:** To study the obstetrical outcome with reference to course of labour, mode of delivery, need for intervention and fetal outcome in primigravida with unengaged fetal head at term gestation at spontaneous onset of labour. The study was conducted in NMCH, Patna Dept. of Obs & Gynae from February 2016 to January 2017. In this study, 100 primigravida patients with unengaged fetal head at spontaneous onset of labour at term gestation were included. **Results:** In this study majority of cases (65%) were of the age group 21-25 years. Gestational age of 48% of women was 37-39 weeks. 40% of primigravida had gestational age of 39-40 weeks, 12% had gestational age 40-41 week. Among 100 patients 20% had free floating head, 34% had fetal head 4/5 palpable per abdominally and in 46% head was 3/5 palpable per abdominally. LSCS done in 40% of cases, normal vaginal delivery occurred in 46% and assisted vaginal delivery in 14% of women. Length of 1<sup>st</sup> stage of labour ranged from 7 hours 50 minutes to 11hrs 35 min (mean- 9 hour 45 minutes). Duration of 2<sup>nd</sup> stage of labour ranged from 40 -110 min (mean 55 minutes) Augmentation of labour was needed in 72 cases. APGAR score was recorded at 1 and 5 min. At 5 minutes 76 cases had APGAR score in the range of 7-10, in 20 babies APGAR score was 4-6, and <3 APGAR score seen in 4 babies 10 babies required NICU admission. **Conclusion:** Primigravida at term gestation with unengaged fetal head at spontaneous onset of labour is not an indication of elective LSCS. Vaginal delivery is possible with close monitoring with good perinatal outcome.*

**Keywords:** Un-Engaged, Primi-Gravida, Labour

## 1. Introduction

Primigravida are at risk patient. Their parturition capacity has never been tested. It is traditional concept in obstetrics that engagement of fetal head occurs by 38 weeks in primigravida. Unengagement of fetal head at term or in early labour is considered as sign of cephalopelvic disproportion and as indicator of increased risk of LSCS. This is not validated in clinical practice. It is seen that in majority of primigravida the engagement occurs between 38-42 weeks or even during the first stage of labour. Increasing rate of elective LSCS for unengaged fetal head in labour are under critical review. Many studies has shown that with careful monitoring such cases can be delivered vaginally. The present study is to determine the obstetrical outcome in primigravida with unengaged fetal head at spontaneous onset of labour at term pregnancy.

## 2. Methodology

The study was conducted on 100 primigravida patients admitted in the labour room in the Department of Obstetrics and Gynecology, Nalanda Medical College and Hospital, from February 2016 to to January 2017.

### Inclusion criteria

- Full term gestation (between 38 and 41 weeks of gestation)
- Live singleton fetus
- Vertex presentation
- No obvious cephalopelvic disproportion
- Intact membrane.

### Exclusion criteria

- Multigravida
- Primigravida with engaged head
- Non vertex presentation
- Multiple gestation
- Delivery at less than 37 weeks or greater than 41 weeks gestation
- Major degree CPD
- Patients with previous cesarean section.
- Patients with obstetric complications like preeclampsia. GDM

The patients were admitted in the labour room. Name, age and detailed history was noted A thorough general examination and systemic examination was done. Per abdomen examination was done to confirm the period of gestation, to note the position of the presenting part and the fifth of fetal head palpable. Per vaginum examination done and cervical consistency, position effacement and dilatation (in cm) and status of membrane was noted. Engagement was clinically recognized by Rule of Fifth, which was described by Crichton in 1962 as following:

- 1) The head is completely free, is described as 5/5.
- 2) A head is beginning to enter the brim as 4/5.
- 3) A head that has a major part in the brim as 3/5.
- 4) Once the widest diameter has passed the brim, the head is said to be 2/5 palpable and it is engaged.
- 5) When a fraction of head is felt. It is 1/5.
- 6) When a fraction or not at all is felt, 0/5 then the head is said to be deeply engaged.

Ultrasonography was carried out in all the patients for expected fetal weight, liquor content, placental position and its maturity

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Labor was assessed using the partogram in every patient. Oxytocin augmentation was started in patients where uterine contractions were not effective to produce cervical dilatation and descent of the head and the dose of oxytocin was titrated as per requirement.

Foetal heart rate was monitored as per protocol. Emergency LSCS was performed in patients having fetal distress or non progress of labour. The labor outcome was assessed. In cases of vaginal delivery, the duration of the first and second stage of labor were reported. The APGAR score at 1 and 5 minutes were recorded. Fetal weight is measured and recorded.

**Table 1:** Distribution of cases according to age

Age in years	Number of cases
18-20 years	25
21 -25	65
26-30	10
Total	100

**Table 2:** Distribution of cases according to gestational age

Gestational age	Number of cases	Percentage
37-39	48	48%
39-40	40	40%
40-41	12	12%
Total	100	100%

**Table 3:** Mode of delivery

Mode of delivery	Number of cases	Percentage of cases
LSCS	40	35%
Spontaneous vaginal delivery	46	51%
Assisted vaginal delivery	14	14%
Total	100	100%

**Table 4:** Distribution of cases according to fifth of fetal head palpable P/A and mode of delivery

Head palpable P/A	No. of cases	FTND NO. of cases	FTND %	FORCEP no. of cases	VACUUM no. Of cases	LSCS no. of cases	LSCS %
FF	20	1		1	-	18	90%
4/5	34	15		3	4	12	35.29%
3/5	46	30		2	4	10	21.73%
TOTAL	100 (100%)	46 (46%)			8(8%)	40 (40%)	

**Table 5:** APGAR score at 5 minute

APGAR score	Number of baby	percentage
7-10	76	76%
4-7	20	20%
<3	4	4%

### 3. Result

In my study most of the women 65% were in age group of 21-25 years, 25% of women were below 20 and 10% were age of 26-30 Mean age was 23.7 year years. 48 % of women had gestational age in between 37-39 weeks.,40% had gestational age of 39-40 weeks and 10 % had gestational age of 40-41 weeks. Among 100 patients 20% had free floating head,34% had fetal head 4/5 palpable P/A and in 46% head was 3/5 palpable per abdominally. LSCS was done in 40% of cases,normal vaginal delivery occurred in 46% and assisted vaginal delivery in 14% of women. Among 20 women with FF head LSCS was done in 18 (90%) women,1 had normal vaginal delivery and 1 assisted vaginal delivery. Among women with head 4/5 palpable P/A 15 had normal vaginal delivery, 7 assisted vaginal delivery and in 12 women LSCS was done. In 46 women with 3/5 head palpable P/A 30 reported normal vaginal delivery, 6 assisted vaginal delivery and 10 LSCS. Length of 1st stage of labour ranged from 7hrs 50 min to 11 hrs 35 min.Mean duration of 1<sup>st</sup> stage was 9 hour 45 minutes. Duration of 2<sup>nd</sup> stage of labour ranged from 40 -110 min. Mean duration of 2<sup>nd</sup> stage was 55 minutes. Augmentation of labour was done in 72 case. APGAR score at 5 minute was between 7-10 in 76 cases, 4-6 in 20 cases, and <3 in 4 cases. 10 cases required NICU admission. Mean birth weight was 2.54 kg.

### 4. Discussion

This was a prospective study, where 100 primigravida with unengaged foetal head at spontaneous onset of labour at term gestation were evaluated. The aim of the study was to analyse the of obstetrical outcome of labour with regards to duration of labour, mode of delivery, fetal condition.

In my study LSCS was done in 40% patients, normal vaginal delivery in 46% and assisted vaginal delivery in 14% of patients.

Shahida mallik et al(1) in their comparative study on obstetrical outcome in unengaged versus engaged head in primigravida reported 39% cesarean section, 42% spontaneously delivery and 19% assisted vaginal delivery in unengaged fetal head which is very close to my result. Ambwani et al(2) studied outcome of primigravida in early labor with unengaged head at term reported delivery of 34% cases by C-section and 66 % of total cases were delivered vaginally.

In my study mean duration of 1st stage of labour was 9 hours 45 minutes and mean duration of 2<sup>nd</sup> stage of labour was 55 minutes . In study done by Siana choudhary(3) , duration of labour of 1 stage was 11.04±2.04 hours and that of 2 stage of labour was 37.8±20.3 minutes, where as is study of Sunita sudhir (4) the mean duration of labour in 1st stage was 12.06±0.50 hours and of 2 stage was 36.3±15.2 minutes.

In my study mean baby birth weight was 2.54 kg. Dayal S et al(5) in study on Primigravida with engaged and unengaged

fetal head, reported mean birth weight 2.77kg in the unengaged group, which is very similar to our study. Sunita dhar et al(6) reported mean birth weight 2.83 kg.

In my study 76 babies had APGAR score of 7-10 at 5 minutes 20 baby had 4-6 and <3 in 4 baby. 10 baby required NICU admission. Neha et al (7) reported apgar score 7-10 in 75%, 4-6 in 20% of baby.

## 5. Conclusion

Unengaged head in primigravida at spontaneous onset of labour at term gestation is not an indication for LSCS. With close supervision, judicious use of oxytocin, artificial rupture of membrane, careful use of forceps and ventouse such patients can be delivered vaginally with good maternal and fetal outcome.

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