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Original Research Article

A Feto-Maternal Outcome of Primigravida with Unengaged Head at Term

Arti Kumari[1], Anupama Sinha[2]

[1]Senior Resident, Dept. of Obs. and Gynae, JLN medical College, Bhagalpur.
[2]Associate Professor and Head of Department, Dept. of Obs. and Gynae., JLN medical College, Bhagalpur

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Corresponding Author: Dr. Anupama Sinha
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Abstract:

Background: Primigravida are potential group at risk for unengaged head, monitoring of labour is done in these patients and comparison on mode of delivery was done.

Aim: To study the outcome of labour and foetus in primigravida patients with unengaged head at term.

Method: It is prospective interventional study, carried out at JLNMCH, Bhagalpur. 50 primigravida patients with unengaged head were observed in last 3 months.

Results: In the present study out of 50 women, in 54.00% of women had Normal Delivery, 10% were by instrumental delivery whereas remaining 36.00% women required LSCS. 5% new born were admitted in NICU.

Conclusion: Proper monitoring if done in primigravida in labour rate of operative interference can be cut down.

Keywords: Primigravida, Onset of Labour, Mode of Delivery, Perinatal Outcome.

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Introduction

Labour is an important event with unique experience exclusively in a women's life. It is characterized by onset of regular uterine contraction followed by progressive cervical dilatation, effacement and descent of presenting part. Engagement is the first step in the mechanism of labour of a primigravida. Those with unengaged head at onset of labour are considered to be at high risk, potential candidate for an operative delivery. [1]

In the last decade, the rising rate of LSCS is under critical review. One of the main reasons of this escalation, is direct LSCS of primigravida, with unengaged fetal head at term, which is a frequently encountered finding in obstetric practice. [2]

It has been a traditional concept in obstetrics, that engagement occurs before 38 weeks in primigravida and that engagement before the onset of labour, increase the chance of safe vaginal delivery and non-engagement before the onset of labour, due to underlying cause, decrease the chance of vaginal delivery. [3] However with good contractions, in most cases, head engaged in due course of time. Then, vaginal delivery is a happy outcome.

However, controversy still exists over the significance of the fetal head level in early labour, whether it bears any relation with mode of delivery. [4]

The whole process of engagement is crucial for, not only the onset, but also the culmination of labour**.**

Conditions related to Unengaged Head

Maternal conditions

1) Contracted pelvis— ora narrow inlet
2) Cephalopelvic disproportion
3) Placenta praevia- grade III & IV, & post. Praevia
4) Poly hydramnios
5) Any mass in lower segment
6) High Inclination pelvis

Foetal conditions

Deflexed head-commenest reason

1) Prematurity
2) Twin pregnancy
3) hydrocephalus
4) Anencephaly

The purpose of this study was aimed to know the outcome of labour, in cases with unengaged head at term and at onset of labour in primigravida and to evaluate its effect on the mode of delivery and fetal outcome.

Aims and Objectives

Aim: To study the outcome of labour and foetus in primigravida patients with unengaged head at term.

Objectives: To study the course of labour, need for intervention, and fetal outcome, in primigravida with unengaged head, at term gestation, at onset of labour.

Study Population: A total of 50 patients were enrolled in these studies, who were attending in labour room, JLNMCH, Bhagalpur in last 3 months.

Inclusion Criteria

1) Primigravida with unengaged head
2) Full term gestation
3) Live singleton pregnancy
4) Cephalic presentation

Exclusion Criteria

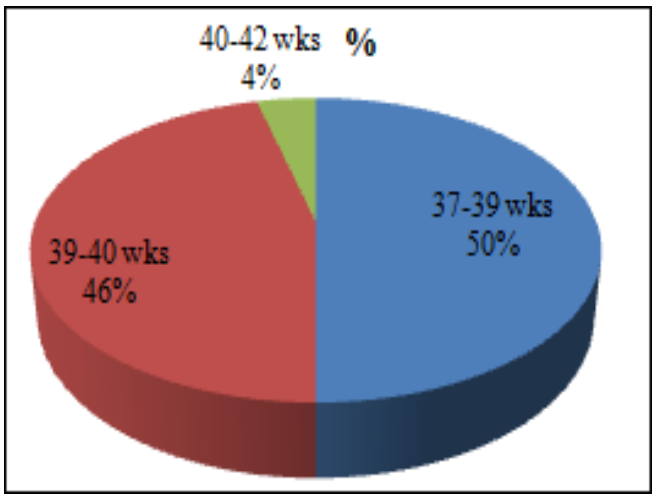
1) Multigravida
2) Primigravida with engaged head
3) Non cephalic presentation
4) Multiple gestation
5) Major degree of Cephalopelvic dispraportion
6) Premature rupture of membrane
7) All high risk cases, with medical problems like anemia, heart disease, PIH.

Results

Table 1: Mean Age

Parameter	Mean	SD
Age	24.50	3.59
Birth Weight	2.89	0.47

In the present study, we have enrolled total 50 women, who fulfilled the selection criteria of the study. Mean age of the enrolled participants was 24.50±3.59 years where as mean birth weight of new born was 2.89±0.47 kg.



Graph 1: Distribution of primigravida with unengaged head, according to gestational age

In our study, we found that 50% cases were reported in gestational age of 37-39wks, and 46% with gestational age 39-40 wks.

Table 2: Mean Duration of labourineach phase

Mean duration of each phase	Primigravida with Unengaged head	p-value
Latent Phase(hrs)	10.40	<0.01
Active Phase(hrs)	5.48	<0.01
Rate of dilatation(cm/hr)	1.14	<0.01
1st stage (hrs)	14.21	<0.01
2nd stage(mins)	34.38	0.12

In our study, we concluded that mean duration of latent phase was 10.40 hrs, mean duration for active phase was 5.48 hrs.

Table3: Mode of Delivery

Mode of Delivery	N	%
Normal Delivery	27	54%
Instrumental delivery	5	10%
LSCS	18	36.00%

In the present study out of 100 women, in 54.00% of women had Vaginal Delivery, 10% were instrumental deliveries where as remaining 36.00% women required LSCS.

Table 4: Indication for LSCS

Indication for LSCS	N	%
Arrest of Progress	10	54.29%
Fetal Distress	4	22.86%
Obstructed Labour	1	05.71%
Occipito Posterior	3	17.14%

From the above table it can be concluded that Arrest of Progress was the primary indication for the LSCS, causing Fetal Distress in (22.86%) cases, Occipito Posterior (17.14%) and Obstructed Labour (5.71%), with undiagnosed underlying reason.

Table 5: Mode of delivery in prolonged labour

Mode of delivery in prolonged labour	No. of Cases(20)	Percentage (100)%
Normal delivery	6	30%
Operative delivery (for ceps and vaccum)	5	25%
Cesarean section	9	45%

Total 20 patients were observed to have prolonged labour. Augmentations were tried in selected cases. Monitoring of patients was done with help of partogram. And timely intervention was done. 6 patients delivered normally and in2 patients forceps was applied and in 3 patients vacuum delivery was conducted, remaining 9 required LSCS, as augmentatation failed to effect a progress.

Table 6: Maternal Complication of primigravida with unengaged head

Maternal complication	No. of cases
PPH	5(10%)
Perineal Tear	3(6%)
Cervical tear	2(4%)
Wound infection	2(4%)
Postpartum psychosis	1(2%)

In our study, we concluded that most common maternal complication of primigravida with unengaged head was PPH (5 Cases).

Morbidity Associated with C-Section

For 18 cases who underwent c section, more morbidity was associated, compared to that of vaginal delivery. Patient had to stay for longer period in hospital, suffered more pain, and 2 patients required resuturing due to wound infections.

Table 7: APGAR Score at 1min

APGAR Score	N	%
7-10	37	74.00%
4-6	6	12.00%
<3	7	14.00%

In present study 74.00% of new born having APGAR score 7-10 at 1min followed by 4-6 (12.00%) and < 3 (14.00%)

Table8: APGAR Score at 5min

APGAR Score	N	%	NICU Admission
7-10	38	76.00%	1
4-6	12	24.00%	4
<3	00	00.00%	0

In present study 76.00% of new born having APGAR score 7-10 at 5min and remaining had 4-6 (24.00%). We also concluded that 5% of new born required NICU admission whereas 1 new born had APGAR Score more than 7, 4 new born had APGAR Score in between 4 to 6

This was a limited degree of morbidity, as all the new borns recovered well, & were returned to mother for further care, without any residual problem or limitation.

Discussion

The concept held by obstetrician and stated in books is that "foetal head engages in the maternal pelvis in last 4wks of pregnancy". 9 Obstetricians feel that unengaged in primigravida at the onset of labour always call for careful re- evaluation of cephalopelvic interrelationship. [5]

In the present study, the mean age of enrolled participants was 24.50yrs. This was compared with study by Assadi et al(2005), mean age was 24.59 yrs and study by Chaudhary et al, where mean age was 21yrs. [6]

Average duration of labour in different phases

In present study, we found that mean duration of 1st stage of labour was 14.21 hrs and mean duration of 2nd stage of labour was 34.38 mins. The result was corresponds with Chaudhary et al, durationof1ststageoflabour was11.04hrs and 2nd stage was 37.8 mins. According to Salma Iqbal, total duration of labour >12hrs was present in 66% cases of unengaged head. [7]

Comparison of mode of delivery with other studies

In present study, 54% patient had vaginal delivery, 10% had instrumental delivery and 36% deliveries by LSCS. This result was compared with Kaur D et al, rate of caesarean section in higher foetal stationare comparable and statiscally significant. Studies done by Auer et al studied floating head in primigravida showed that 61% delivered vaginally, 15% were instrumental deliveries and 24% deliveries by LSCS. [8]

Causes of Caesarean section:

In the present study, out of 18 cases, 10 cases underwent LSCS for failure to progress and foetal distress was second common indication.

It was compared with study by chaudhary et al, caesarean were performed due to failure of progress in 48% cases, and for foetal distress in 24% cases.

Perinatal and maternal outcome

- In present study 74.00% of newborn having APGAR score 7-10 at 1 min followed by <3 (14.00%) and 4-6 (12.00%).
- In present study 76.00% of newborn having APGAR score 7-10 at 5 min and remaining had 4-6 (24.00%). We also concluded that 5% of newborn required NICU admission whereas 1 new born had APGAR Score more than 7, four new born had APGAR Score in between 4 to 6.

This was a limited degree of morbidity, as all the new borns recovered well, & were returned to mother for further care, without any residual problem or limitation. [9-11]

- In present study, 5(10%) patients developed PPH and 3(6%) cases had perineal tear and 2(4%) had cervical tear and 2(4%) had wound infection.
- Main cause of PPH is atonicity of uterus, poor retraction and injury to genital tract.
- Perineal tear or cervical tear is due to instrumental delivery.
- This study is corresponding with study of sheikh et al in unengaged head showed that PPH occurred in 10% women, Perineal tear in 2%, wound infection in 7%.

Conclusion

• Unengaged head at onset of labour taken as abadomen, is always thought by most of obstetrician.

- Primigravida at term gestation with unengaged fetal head with spontaneous onset of labour, is not an indication for LSCS, and vaginal delivery is possible with close intra- natal monitoring, watchful expectancy and timely intervention.
- Even though head gets engaged, labour does not well progress, than there is definite higher rate of operative delivery and LSCS.
- N-27(54%) of patients are likely to delivered vaginally, rate of instrumental delivery N-5(10%) and LSCS N- 18(36%).
- The main indication for LSCS was undue prolongation of labour.
- PPH is most important complication of labour in unengaged head hence all precautions should be taken to prevent it.

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