



PRIMIGRAVIDA; OBSTETRICAL OUTCOME; WITH ENGAGED VERSUS UNENGAGED FETAL HEAD WITH SPONTANEOUS ONSET OF LABOUR AT TERM

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Article received on:

17/11/2015

Accepted for publication:

10/12/2015

Received after proof reading:

09/02/2016

ABSTRACT... Objectives: Determine the mode of delivery in primigravida with engaged versus unengaged fetal head with spontaneous onset of labour at term. **Study design:** Case control study. **Setting:** Department of Obstetrics and Gynaecology, Lady Aitchison Hospital, Lahore. **Duration of Study:** Jan 2012 to Dec 2012. **Patients and Methods:** Two hundred cases were included in this study and divided into two groups (A & B) 100 in each group. Primigravidas presenting with engaged fetal head were included in Group A and those presenting with unengaged fetal head were included in Group B. The course of labor in all patients was recorded on partogram. Partogram was maintained according to departmental protocol. Cesarean section was decided if labour failed to progress or fetal head failed to descend after observing as per departmental protocol (12 hours). All patients were studied in detail with reference to mode of delivery regarding vaginal (spontaneous and instrumental) or cesarean section delivery. **Results:** Mean age was 23.65 ± 3.72 years in Group-A and 24.96 ± 4.12 years in Group-B, 31%(n=31) in Group-A and 38%(n=38) in Group-B between 37-39 weeks, 60%(n=60) in group-A and 51%(n=51) in Group-B between 40-41 weeks and 9%(n=9) in Group-A and 11%(n=11) in Group-B were with 42 weeks of gestation, mode of delivery in primigravida with engaged versus unengaged fetal head with spontaneous onset of labour at term was compared which showed that 19%(n=19) in Group-A and 39%(n=39) in Group-B were delivered with cesarean section, 65%(n=65) in Group-A and 42%(n=42) in Group-B were spontaneously delivered vaginally while 16%(n=16) in Group-A and 19%(n=19) in Group-B had assisted vaginal delivery. **Conclusion:** Cesarean section was more prevalent in unengaged fetal head in primigravida women at term.

Key words: Primigravida, engaged, unengaged fetal head, mode of delivery.

Article Citation: Malik S, Asif U, Asif M. Obstetrical outcome of primigravida; with engaged versus unengaged fetal head with spontaneous onset of labour at term. Professional Med J 2016;23(2):171-175. DOI: 10.17957/TPMJ/16.3175

INTRODUCTION

Normal labour in primagravida is significantly different from multigravida, as physiologically the uterus is a less efficient and contractions may be irregular or hypotonic causing delay in first stage of labour.¹ Dystocia or difficult labour is diagnosed in 37% of primigravidae.² Primigravida are at high risk for developing obstructed labour when they present with unengaged fetal head at onset of labour.³ In such cases, labour is prolonged and greater need may be required for intervention.⁴ Primigravida with unengaged head may be having a possible sign of cephalopelvic disproportion.⁵

Abnormal labor is usually caused by abnormalities like dystocia, dysfunctional labor, failure to progress, and failure to descend. Abnormal labor

affects nearly 20% of parturient and is the most common indication for primary cesarean delivery.⁶

When to intervene with a cesarean delivery for abnormal labor progress is controversial. It is clear that the difference between what is considered normal and sufficiently abnormal to warrant operative intervention remains a gray area, and much room for clinical judgment exists.

Primigravidas with unengaged head are at increased risk for obstructed labour with all its attendant morbidity & mortality. Therefore they should be referred for delivery to a health centre where expert care and facilities are available. This carries special significance in our country Pakistan where most patients deliver at home

without medical expertise available.

Literature search on this subject shows variable results regarding mode of delivery in engaged and unengaged fetal head groups. Furthermore, we can use this data for planning MCH services especially in rural areas where referral system is very weak. It will highlight the need for more specialized centers where facilities for instrumental and caesarian delivery is available in order to reduce maternal mortality and morbidity regarding this. Up till now very limited data is available in our country regarding this study

The objective of the study was to know the frequency of mode of delivery in primigravida with spontaneous onset of labour at term with engaged fetal head versus unengaged fetal head.

PATIENTS AND METHODS

This case control study was conducted at Gynae Unit IV, King Edward Medical University, Lady Aitchison Hospital, Lahore. This study was conducted from Jan 2012 to Dec 2012. A purposive convenient sampling technique was used. Two hundred (200) cases (100 each group) were included in this study and divided into two groups (A & B). Primigravida presenting with engaged fetal head were included in Group A and those presenting with unengaged fetal head were included in Group B. All Primigravida with age from age 18-28 years with singleton pregnancy and cephalic presentation and having spontaneous onset of labour were included in the study. Cases with cephalopelvic disproportion, intrauterine growth retardation, previous surgery on uterus, multiple pregnancies, Placenta previa, fetal distress were excluded. Known cases with medical problem like diabetes mellitus and hypertension were also excluded.

Demographic data like name, age and address were recorded. After reassuring patients regarding expertise and confidentiality informed consent was taken and patients were placed in group A or B depending upon their presentation. All the data was entered in pre-designed proforma. The course of labor in all patients was recorded

on partogram. Partogram was maintained according to departmental protocol. Cesarean section was decided if labour failed to progress or fetal head failed to descend after observing as per departmental protocol (12 hours). Mode of delivery whether vaginal (spontaneous and instrumental) or surgical was studied in detail in all patients.

All the data was entered and analyzed using SPSS version 20. Categorical variables like normal vaginal delivery, assisted delivery and cesarean section delivery was analyzed by simple descriptive statistics like frequency and percentages. Mean and standard deviation were calculated for quantitative variables like age and gestational age.

RESULTS

A total of 200 patients were studied, 100 in each group A and B. Mean age of the patients in Group-A was recorded as 23.65 years and in Group-B 24.96 years (Table-I). Age distribution of the patients revealed 21%(n=21) in Group-A and 24%(n=24) in Group-B were between 18-20 years, 48%(n=48) in group-A and 53%(n=53) in Group-B were between 21-25 years and 31%(n=31) in Group-A and 23%(n=23) in Group-B were between 26-28 years of age.

Gestational age of the subjects was calculated and presented in Table-II where 31%(n=31) in Group-A and 38%(n=38) in Group-B were between 37-39 weeks, 60%(n=60) in group-A and 51%(n=51) in Group-B were between 40-41 weeks and 9%(n=9) in Group-A and 11%(n=11) in Group-B were with 42 weeks of gestation.

Mode of delivery in primigravida with engaged versus unengaged fetal head with spontaneous onset of labour at term was compared which shows 19%(n=19) in Group-A and 39%(n=39) in Group-B were delivered with cesarean section, 65%(n=65) in Group-A and 42%(n=42) in Group-B were spontaneously delivered vaginally while 16%(n=16) in Group-A and 19%(n=19) in Group-B were delivered vaginally but with instrumental assisted delivery. (Table-III)

Age (in years)	Group-A (100)		Group-B (100)	
	No. of cases	Percentage	No. of cases	Percentage
18-20	21	21	24	24
21-25	48	48	53	53
26-28	31	31	23	23
Total	100	100	100	100
Age (Mean and S.D.)	23.65±3.72		24.96±4.12	

Table-I. Age distribution of the subjects (n=200)

Gestational age (in weeks)	Group-A (100)		Group-B (100)	
	No. of cases	Percentage	No. of cases	Percentage
37-39	31	31	38	38
40-41	60	60	51	51
42	09	09	11	11
Total	100	100	100	100

Table-II. Distribution of the subjects according to gestational age (n=200)

Mode of delivery	Group-A (100)		Group-B (100)	
	No. of cases	Percentage	No. of cases	Percentage
Cesarean delivery	19	19	39	39
Spontaneous Vaginal delivery	65	65	42	42
Assisted vaginal delivery	16	16	19	19
Total	100	100	100	100

Table-III. Mode of delivery in primigravida with engaged versus unengaged fetal head with spontaneous onset of labour at term (n=200)

DISCUSSION

Unengaged fetal head in primigravidas in labour near term may indicate a threat to the normal progress of labour.⁷ The cardinal observation in a pregnant woman at term is whether the head is engaged or not. Such cases with unengaged head are too identified early and should be taken as high risk. Such patients should be referred to an advanced care hospital where facilities for surgical intervention are available.

In Group-A, 19% (n=19) had cesarean section, 65% (n=65) were spontaneously delivered while 16% (n=16) had assisted vaginal delivery. In Group-B, 39% (n=39) were delivered with cesarean section, 42% (n=42) were spontaneously delivered and 19% (n=19) had assisted vaginal delivery.

Ambwani et al studied outcome of primigravidas in early labor with unengaged head at term. In unengaged group, 34% cases had C-section and

66% of total cases were delivered vaginally. The aetiological factors for C-section were deflexed head, cephalopelvic disproportion and placenta praevia.⁸

In another similar study by Iqbal S et al⁴, 62% patients had vaginal delivery and 38% had Caesarean delivery among patients with unengaged head, versus 85% vaginal delivery in engaged group. Between the two groups, no significant difference in maternal morbidity and neonatal morbidity was noted.

Another study by Assadi et al assessed 80 primigravidas regarding fetal head position at ≥ 37 weeks who were in active labor (cervical dilatation ≥ 4 cm. with adequate uterine contractions). The surgical delivery rate was significantly higher in the unengaged group (38.6%) as compared to engaged group (8.33%). Vaginal delivery occurred in 61.4% of primigravidas with unengaged head.⁹

In another study, among 250 primigravidae, 95% had unengaged head at the onset of labour. However descent of head occurred throughout first and second stage of labour. A high station at the onset of labour led to prolongation of first and second stage stages of labour. However, the high station became correctable in 93% patients. So he concluded a high station at the onset of labour does not mean inlet contraction though it can lead to prolonged labour.¹⁰

Kang M et al studied the progress of labour in 150 cases. Progress was slow in primigravidas with unengaged head at the onset of labour. In patients with free head mean duration of labour was prolonged. Higher incidence of retained placenta, PPH, maternal exhaustion and vaginal tears were seen. Proportion of Apgar score of 5 or less was higher in neonates with unengaged head.¹¹

Friedman et al reported that in 803 nulliparous women, fetal station was higher in active labor at term. At admission approximately 30% at or below 0 station had 5% cesarean delivery rates compared with 14% at higher station. Among primigravidas with fetal head engagement, 86% in active labor delivered vaginally.¹²

A similar results were found in a study by Khurshid and Sadiq. In 100 patients with unengaged head, vaginal delivery occurred in 67% of cases, 33% of cases had caesarean section. No interference was required in 60% of cases. In 64% cases labour lasted more than 12 hrs.¹³ Similar results were reported by Shaikh et al when 100 cases were studied with unengaged head where Vaginal delivery occurred in 59(59%) cases and caesarean section was performed in 41(41%).¹⁴

Ours results are different as compared to a study conducted at Sir Ganga Ram Hospital, Lahore where C-section rate was more in unengaged group being 16.89%, compared with 5.33% in engaged group.³ Rates of C-section are much lower as compared to our study.

The above results are in agreement with the result

of the current study which emphasizes the proper management of primigravida and also highlights the need for more specialized centers where facilities for instrumental and caesarian section delivery are available in order to reduce maternal mortality and morbidity.

CONCLUSION

The results of this study reveal that the rate of surgical and medical intervention is significantly higher in cases with unengaged fetal among primigravidas at term and onset of labour.

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“Learn from yesterday, Live for today,
Hope for tomorrow.”

Albert Einstein



AUTHORSHIP AND CONTRIBUTION DECLARATION

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