ORIGINAL ARTICLE

Outcome of primigravida with high head at term

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Abstract

Objective: To determine the progress of labour, need of medical and surgical intervention and foetal and maternal outcome in primigravida with high head at term

Methods: The prospective descriptive study was conducted at the Department of Obstetrics and Gynaecology, Peoples University of Medical and Health Sciences, Nawabshah, Pakistan, from Jan 1 to June30, 2011, and comprised 100 primigravida with unengaged head at term and at onset of labour. Detailed history was taken in each case and general, systemic and obstetric examination was done. Pelvic assessment and ultrasonography was performed. SPSS 16 was used for statistical analysis.

Result: Of the 100 women in the study, 70(70%) were aged between 20-30 years. The most common identified cause of non-engaged head was deflexed head in 28(28%), while no cause was found in 45(45%) women. Further, 45(45%) women presented with spontaneous labour, while labour had to be induced with prostaglandin in the rest. Vaginal delivery occurred in 59(59%) cases and caesarean section was performed in 41(41%). The duration of labour was <12 hours in 32(32%) cases. Postpartum haemorrhage affected 10(10%) patients, wound infection was seen in 7(7%), and perineal tear in 2(2%). Apgar score at 5 minutes was 7-10 in 75(75%), 4-6 in (20%), 3 and below in 5(5%) of neonates.

Keywords: Primigravida, High head at term, Non-engaged head in labour. (JPMA 64: 1012; 2014)

Introduction

Labour is onset of regular uterine contraction followed by progressive cervical dilatation, effacement and descent of the presenting part.[1] It has been traditional concept in obstetrics that engagement of foetal head occurs by the 38th week. In clinical practice, in majority of primigravida the engagement occurs between 38-42 weeks or even during the first stage of labour.[2]

Dabby in 2003 found that the incidence of unengaged head in primigravida was 31% out of which 82.9% was delivered vaginally and 17.1% had caesarean section (CS);[3] a rate which was 4 times higher than the rate among controls of 4.2% ($p<0.0001$). None of women who had persistently unengaged head at 7cm cervical dilatation delivered vaginally.

High head in primigravida has long been considered a possible sign of cephalo pelvic disproportion.[2-4] A high foetal head in primigravida at term is regarded as risk factor for obstructed labour and dystocia.[5] This has led to an increased rate of CS[6] with its financial implication and future family size restriction for women.

The latent phase is prolonged and the duration of first stage increases from 12-14 hours due to improper adaptation of foetal head, high station, and misdirection of the uterine expulsive force. The problem of prolonged labour is that women get exposed to high risk of infection, ketosis and obstructed labour, while in foetus the danger of asphyxia and infection rises.[7]

The current study was planned to find out the aetiological factors for primigravida with unengaged head, partographic analysis of the progress of labour with regard to the duration of labour and the role of active medical and surgical intervention.

Subjects and Methods

The prospective descriptive study was conducted at the Obstetrics and Gynaecology Department of the Peoples University of Medical and Health Sciences, Nawabshah, Pakistan, from January 1 to June 30, 2011, and comprised 100 primigravida with unengaged head. The subjects had singleton pregnancy with cephalic presentation and estimated foetal weight of 2.5-4kg. Those with skeletal deformity, intra-uterine growth restriction (IUGR), previous uterine surgery and those with foetal distress in labour were excluded.

The duration of the active phase of labour, medical interventions like use of prostaglandin and oxytocin, surgical intervention, maternal and foetal outcomes were observed.

A detailed history was taken followed by general and

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systemic examination. The Muller and Munroker manoeuvre[8] was used to assess the adequacy of pelvis, and the diagonal conjugate was accurately measured. Ultrasonography was carried out for the assessment of foetal biometric parameters, placental localisation, estimated foetal weight (EFW) and to rule out any obvious congenital anomalies.

Induction was performed according to the predefined criteria and details of labour were noted down, and so were the mode of delivery, foetal and maternal outcomes. Data was entered on a proforma and analysed using SPSS16.0.

Results

Of the 100 women, 70(70%) were in the 20-30 age bracket. Vaginal delivery occurred in 59(59%) and CS in 41(41%).

The most common cause of un-engaged head was deflexed head in 28(28%) women, Cephalopelvic disproportion (CPD) in 18(18), loop of the cord around the neck in 4(4%), placenta previa type 1 and 2 (anterior) in 4(4%), and hydrocephalus in 1(1%). No cause could be identified in 45(45%) (Table-1).

Only 45(45%) women presented with spontaneous labour, and the rest were induced with prostaglandin for post-date (Table-2). Besides, 90% women who presented with spontaneous onset of labour delivered vaginally and CS was mostly required in the induction group.

Duration of labour was <12 hours in 32(32%) women and 68(68%) had labour >12 hours.

Table-1: Aetiological causes of non-engagement of head.

Causes	Number	%
Deflexed Head	28	28
Cephalopelvic disproportion	18	18
Placenta previa	4	4
Loop ofcord around the neck	4	4
Hydrocephalus	1	1
No cause found	45	45

Table-2: Onset of labour and augmentation with oxytocin.

Onset of labour	Number	%
Spontaneous onset of labour	45	45
Induction with prostaglandin	55	55
Augmentation with oxytocin		
Required	74	74
Not required	26	26

Table-3: Maternal morbidity and foetal outcome (Apgar score at 5 minutes).

Maternal morbidity	Number	%
Perineal tear	2	2
PPH	10	10
Wound infection	7	7
Apgar score at 5minutes		
7-10	75	75
4-6	20	20
3 & less	5	5
Admission to NNICU	10	10
Meconium aspiration	4	4

PPH: Post-partum haemorrhage .
NNICU: Neonatal Intensive Care Unit.

Regarding maternal outcome, postpartum haemorrhage (PPH) occurred in 10(10%) women, perineal tear in 2(2%), and wound infection in 7(7%) (Table-3).

Regarding foetal outcome, Apgar score at 5 minute was 7-10 in 75(75%), 4-6 in 20(20%), 3 and below in 5(5%) neonates. Ten (10%) neonates required admission to neonatal intensive care unit (NNICU), while meconium aspiration was noted in 4(4%)

Discussion

The study was aimed at finding out the aetiological factors, outcome of labour, medical and surgical interventions.

An important observation of the study was that no cause could be ascertained in 45% of the population. The main causes of high head identified were deflexed head and CPD. A similar result was documented by other studies.[9-12]

Friedman et al. in 1965 stated that in primigravida with high head the latent phase is increased and mean duration of labour was 14.4 hours. In our study, 60% of primigravida labour lasted more than 12 hours, which was in line with results in other studies.[13,14]

Overall 41% underwent CS in the current study, while 59%delivered vaginally when given safe trial of labour. Primigravida with CPD, placenta previa type 1and2(anterior),cord around the neck, and 1 woman with unidentified cause had to undergo CS. Similar results were observed in a Mexican study, and others observed a 45% of CS rate in women with high head.[10,12,15]

Many of the women with unengaged head needed induction at 41 week and there was greater need of augmentation. According to a study, the single important predictor for vaginal delivery in women with un-engaged head was the natural onset of labour.[16] Therefore, women who have to be induced should be counselled cautiously

for a CS possibility. It High head at term should not be itself an indication for early delivery by CS. Vigilant approach and timely intervention reduces CS rate and associated morbidity.

Conclusion

Incidence of active medical and surgical intervention in primigravida with unengaged head was quite high. Pregnancy with high head is not the sole CS indication. If monitored properly and by ensuring timely intervention in cases without any aetiological factors the chances of vaginal delivery rise, thereby reducing maternal and foetal morbidity.

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