

Management of Primigravida with Unengaged Head at Term

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ABSTRACT

Objective: To an increase in overall caesarean section rate. The incidence of active medical and surgical intervention in cases of primigravidas with high head at onset of labour is quite high.

Design: Case Series.

Place and duration of study: This prospective study was carried out in Gynae unit 3, Lady Willingdon Hospital Lahore from March 1997 to Oct 1997.

Patients and methods: In this series of study, 100 primigravidas with unengaged head at term and at the onset of labour were recruited. All cases were studied in detail with reference to course of labour, mode of delivery, interference required and maternal and fetal outcome. A detailed history was taken and general and systemic examination was done. Adequacy of pelvis and diagnol conjugate was accurately measured. Intrapartum ultrasonography was done.

Results: The incidence of high head in primigravidas at term was 22 %.The most common aetiology was deflexed head and next commonest was cephalopelvic disproportion.In 40% no cause found. Vaginal delivery occurred in 67% of cases, 33% of cases had caesarean section. No interference i.e., ventouse or forceps required in 60% of cases. In 64% cases labour lasted more than 12 hrs.

Conclusion: With judicious use of oxytocin and careful monitoring of progress of the labour on partograms, this is possible to deliver most of these primigravidas with high heads vaginally with minimal maternal and fetal morbidity and C- sections can be avoided in many if not all of these cases.

Key words: Primigravidas with unengaged head, high head at term, fetus, morbidity

INTRODUCTION

Parturition encompasses all physiological processes involved in birthing. There are 4 phases from uterine quiescence, awakening active labour and the puerperium¹. It has been the traditional concept in obstetrics that engagement of head occurs by 38 weeks in primigravida. This traditional concept is not validated in clinical practice. In majority of primigravidas the engagement occurs between 38-42 weeks or even during the first stage of labour².

Debby 2003, found that the incidence of unengaged head in primigravida was 31%, out of which 82.9% were delivered vaginally and 17.1% had caesarean section³, a rate which was four times higher than the control rate of 4.2% (p value <0.0001). None of the women who had persistently unengaged head after 7cm cervical dilatation delivered vaginally.

Unengagement of head in primigravida has long been considered a possible sign of cephalopelvic disproportion. It is associated with a higher risk of obstructed labour. Non-engagement at the onset of active phase of labour is a predictor of increased risk of caesarean section. Latent phase is prolonged and

duration of first stage increased from 12 to 14 hours due to improper adaptation of fetal head, high station and misdirection of uterine expulsive forces.

The problems of prolonged labour are that the woman is exposed to high risk of infection, ketosis and obstructed labour while the fetus faces the danger of asphyxia and infection⁴.

In the following study, it has been shown that with careful monitoring of progress of labor and judicial and timely medical intervention it became very much possible to avoid otherwise necessary caesarean sections in most of the primigravidas with high heads. An effort has been made to identify the commonest and significant aetiological factors which lead to non-engagement of the head in such cases.

AIMS & OBJECTIVES

1. To find the etiological factors for primigravida with high head at onset of labour and their incidence and role of active medical/surgical interventions.

PATIENTS AND METHODS

This case series was conducted at Lady Willingdon Hospital, Lahore for 8 months from March 1997 to October 1997 on 100 primigravids with unengaged fetal head. Sampling technique was non probability, purposive convenience sampling. Primigravidas with singleton cephalic presentation with unengaged fetal

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head at term coming into labour room either as an emergency case or as a booked case. A free floating head was preferred. But the cases in which head was not engaged practically, that is 3/5th and above the brim were also included. Those with intrauterine growth restriction, previous uterine surgery and multiple gestations were excluded. Similarly primigravida who presented with fetal distress in labour room were excluded from this study.

Duration of active phase of labour, medical interventions like use of prostaglandins and oxytocin, surgical interventions i.e., assisted vaginal delivery and caesarean section, mode of delivery, maternal and fetal morbidity were the main outcome measures.

From a total of 975 deliveries from March 1997 to October 1997 with 480 primigravidas, 100 primigravidas with high head at term & at the onset of labour were selected. All the cases were studied in detail with reference to course of labour, mode of delivery, interference required and maternal and fetal outcome. A detailed history was taken and general and systemic examination was done. The Muller Munro Kerr maneuver⁵ was used to assess the adequacy of the pelvis and diagonal conjugate was accurately measured. Intrapartum ultrasonography was done for assessing exact gestational age, Biparietal diameter (BPD), placental position and to rule out any congenital anomalies. The course of labour in all these cases was recorded on a partogram. Engagement was clinically recognized by Rule of Fifth, which was described by Orichon 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.

Patients above 41 weeks and not in the labour were induced using prostaglandins. Duration of latent phase was measured and patients with inadequate uterine contractions were augmented with oxytocin.

RESULTS

The incidence of primigravidas with high head at the onset of labour in our series was 22%. Most of them (60%) were between 21-25 years of age. Although older mothers tended to have increased incidence of the use of forceps, prolong 1st and 2nd stage, augmentation of labour and of emergency caesarean section, we were able to achieve vaginal delivery in 67% of cases and lower segment caesarean section in 33% of the cases. No interference by ventouse or

forceps was required in 60% of cases. Vaginal trial failed mainly in cases of cephalopelvic disproportion, premature rupture of membranes, cases with loops of cord around neck and occipitoposterior position. In our study it failed in 16 cases. In 64% of cases labour lasted for more than 12 hours. Fetal and maternal outcome was good (Table I, II).

Table I: Distribution according to the mode of delivery

Mode of delivery	=n	%age
Vaginal delivery	67	67
LSCS	33	33

Table II: Fetal Outcome (Apgar Scores at 5 minutes)

Apgar at 5 mins.	=n
7-10	78
4-6	16
3	6

Table III: Distribution of the cases according to aetiology

Apparent aetiology	=n	%age
Deflexed head	30	30
Cephalopelvic disproportion	13	13
Premature rupture of membranes	4	4
Placenta praevia	3	3
Loops of cord around the neck	6	6
Hydramnios	2	2
Hydrocephalus	1	1
Prematurity	1	1
No aetiological factor found	40	40

Table IV: Aetiologies and outcome of cases

Apparent Aetiology	=n	LSCS	Vaginal delivery without aid	Vaginal delivery with aid
CPD contracted pelvis	13	13	0	0
Big size baby	7	3	2	2
Deflexed head	30	16	4	10
Premature rupture of membranes	4	2	1	1
Placenta praevia	3	3	0	0
Loops of cord around neck	6	3	2	1
Hydramnios	2	0	2	0
Prematurity	1	1	0	0
Hydrocephalus	1	0	0	1
No aetiological factor found	40	0	27	13

Table III states the causes of high head. Most common aetiological factor was deflexed head, the most important of which was occipitoposterior position. The next common was cephalopelvic disproportion. In 40% of cases no aetiological factor was found. Most of the cases had multiple causes for unengaged head e.g., there was occipitoposterior position, baby was heavy, mother had borderline pelvis, obese and short statured.

The outcome of cases according to the apparent aetiology of the high head at the onset of labour is shown in table IV. Only 41% women with unengaged head presented in spontaneous labour but caesarean section was mostly required in induction group.

DISCUSSION

This study was conducted on one hundred primigravidas with high heads at term & at the onset of labour. The aims were to find the aetiological factors and to analyze the progress of labour with regard to duration of labour, uterine action, outcome of labour and the incidence of active medical and surgical intervention. In our study the incidence of unengaged head in primigravidas at term was 22% whereas in the Auer and Simmons⁶ series 1949, the incidence was 9.26%. In Bhatt and Shirali 1961⁷, it was 19.35%. However in the Charles Stipp⁸ series 1969 and Ghosh and Chaudary the incidence was 55.2% and 51.9% respectively. Thus the incidence is extremely variable. In most primigravidas the head gets engaged by 38 weeks⁹. Hence primigravidas who fail to show this expected progress should be investigated for any significant aetiological factor which would help us in their better management. In our series such significant aetiological factors were found in 60% of cases and included deflexed head, cephalopelvic disproportion, premature rupture of membranes, brow presentation, prematurity, loops of cord around neck, hydramnios and placenta previa.

Friedman *et al* 1965¹⁰ stated that in primigravidas with high head, latent phase is increased and mean duration of labour was 14.4 hrs. In our series, in 64% of the patients labour lasted more than 12 hrs. The causes in these patients (were) improper adaptation of presenting part, high station at the beginning of the labour, deflexed head, misdirection of uterine expulsive forces, high incidence of rupture of membranes and dry labour and ineffective uterine contractions.

The rate of caesarean sections in such cases was 33% as compared to overall 15% incidence of caesarean sections. However there were no neonatal deaths and there were no serious maternal complications except third degree perineal tear. These results were consistent with the results of many studies e.g., Ambwani *et al* 2004² stated that the rate of caesarean section in his study was 34% in patients with unengaged heads at term but according to Debby³ 82.9% of the women with high heads delivered vaginally and 17.1% had a caesarean section which was quite less than our findings. Many of women with unengaged heads needed induction at 41 weeks and there was greater need for augmentation of labour.

According to a study done by Saqib *et al* 1999¹¹, the single most important predictor for vaginal delivery in women with unengaged head was natural onset of labour therefore all such women who are or have to be induced should be counseled cautiously for a possible caesarean section. This is also to be noted that unengaged head at term should not by itself be the indication for early delivery by caesarean section. So this can safely be claimed that a vigilant approach and timely intervention can go a long way in reducing the incidence of caesarean sections and hence overall cost and morbidity in these cases.

CONCLUSION

It can easily be inferred that there is usually lots of active medical and surgical intervention in primigravidas with high heads at term & at the onset of labour most of which can either be totally avoided or curtailed to a reasonable minimum. In presence of prolonged labour, it is important to actively look for the possible aetiological factors as detailed above. By plotting progress of labour on a partogram and using oxytocin judiciously when labour appears to be taking a protracted course, most of these cases will and can deliver vaginally with minimal maternal and fetal morbidity without the need of having to take a recourse to a caesarean section.

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