ORIGINAL RESEARCH PAPER

Gynaecology

KEY WORDS: Primigravida, Unengaged Head, Feto-maternal Outcome

DETERMINATION OF LABOUR OUTCOME IN FULLTERM PRIMIGRAVIDA PATIENTS PRESENTING WITH UNENGAGED HEAD- A PROSPECTIVE STUDY

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ABSTRACT

Unengaged head in Primigravida patients at term is considered a foreboding sign in Obstetrics and Gynecology, a finding that has long been found to be associated with more incidence of caesarean deliveries and increased maternal morbidity owing to it. The present prospective study was conducted at a tertiary care Hospital in Ahmedabad, covering 100 primigravida patients with nonengaged head at the onset of labour which were subsequently followed in terms of parameters like mode of delivery, duration of first and second stage of labour in those who delivered vaginally, APGAR score at 1 and 5 minutes and birth weight. Out of 100, vaginal delivery occurred in 68 and LSCS in 32 cases. Therefore, it could be concluded that non-engagement of head in Primigravidas at term is not in itself an indication for LSCS, and most cases are to be managed unbiased with watchful expectancy.

INTRODUCTION:

Labour is defined as a physiological process that is characterised by presence of regular uterine contractions accompanied by cervical effacement and dilatation and fetal descent[1]. Labour is a unique and unprecedented experience for one and all, but Primigravidas are particularly considered the group at risk. As Ian Donald has said that "Primigravida is a dark and untrained horse and potential for child bearing is determined by the outcome of labour"[2]. Labour is a complex process with various steps involved in its mechanism, one of it being the engagement of the fetal head. Engagement of head occurs when the widest diameter of the fetal presenting part has passed through the pelvic inlet[2]. The traditional concept in obstetrics has widely been that the engagement of head occurs by 38 weeks in primigravida. This however is not validated in clinical practice as in majority of primigravidas the engagement occurs between 38-42 weeks or even during the first stage of labour[3].

It is generally accepted that high fetal station in primigravidas in labour near term may indicate a threat to the normal progress of labour because of feto-pelvic disproportion or obstruction of the fetal passage by tumor or the placenta[4]. Many obstetricians even today opt for direct caesarean delivery in primigravidas presenting with unengaged head at term; considering the alarmingly rising rates of cesarean sections, the said indication needs to be readdressed.

On the other hand, it has also been observed that the duration of first and second stage of labour is increased in primigravidas with unengaged head at the onset of labour[5]. 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 infection.

The following study was thus carried out, keeping in mind both the sides of the coin, and in hope of coming to a conclusion regarding management of such primigravida patients with unengaged fetal heads.

AIM AND OBJECTIVES

To study labour outcome in Primigravida patients with unengaged head at term in term of parameters like mode of delivery, duration of first and second stage of labour in those who delivered vaginally, perinatal morbidity and birth weight.

METHODOLOGY

The present prospective study was carried out at GCS medical college, Obstetrics and Gynecology Department, Ahmedabad after considering following inclusion and exclusion criteria from December 2018 to July 2019. Total 100 patients were enrolled in the study. Type of sampling- convenient.

INCLUSION CRITERIA:

- Term gestation (37-41wks)
- Single live fetus
- Vertex presentation
- No obvious CPD
- Intact membranes

EXCLUSION CRITERIA:

- Multigravida
- Multiple gestation
- Engaged head
- Pre-term(less than 37 weeks) and post-term(greater than 41 weeks) pregnancies
- Patient with obstetric and medical complication like PIH, GDM, Chronic HTN etc.

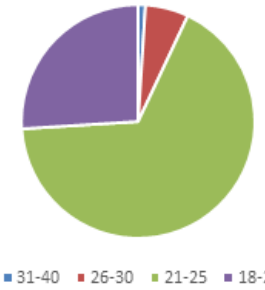
After acquiring informed written consent, the patients were admitted in labour room and their detailed history was taken. Per-abdomen and per-vaginum examinations carried out; Presenting part, station of head, cervical changes, membrane status, pelvis adequacy noted. USG was also performed to assess fetal biometry, AFI, Placental localisation and EFW. Induction of labour with cerviprime gel performed for post-date patiemts (40.1 to 41 weeks of gestation). Fetal heart rate monitoring done by intermittent auscultation. Augmentation of labour with oxytocin considered in case of inadequacy of uterine contractions. Partograph used dutifully to monitor progress of labour. Cesarean section considered for fetal distress and non-progress of labour. Head was defined as 'engaged' once fetal head crossed the station 0 (at the level of maternal ischial spines).

RESULTS

1: DISTRIBUTION OF CASES ACCORDING TO AGE

Age (years)	Number of cases	Percentage
18-20	26	26
21-25	67	67
26-30	06	06
31-40	01	01

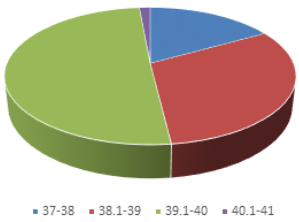
Chart 1: Distribution according to age



2: DISTRUBUTION ACCORDING TO GESTATIONAL AGE

Gestational Age (weeks)	Number of cases	Percentage
37-38	14	14
38.1-39	26	26
39.1-40	42	42
40.1-41	18	18

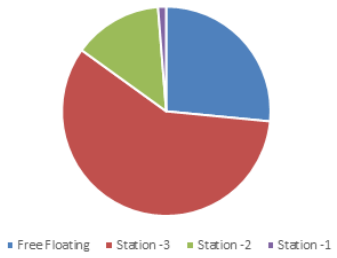
Chart 2: Distribution according to gestational age



3: STATION OF FETAL HEAD AT THE TIME OF ADMISSION

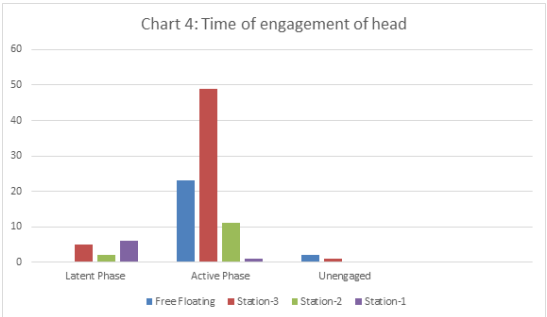
Station	Number of cases	Percentage
Free Floating	25	25
Station -3	55	55
Station -2	13	13
Station -1	07	07

Chart 3: Station of Fetal Head at the time of admission



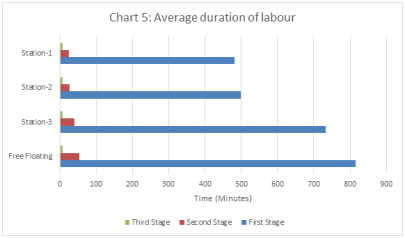
4:TIME OF ENGAGEMENT OF HEAD

Time of Engagement	Free Floating Head	Station -3	Station -2	Station -1	Total
Latent Phase	0	5	2	6	13
Active Phase	23	49	11	1	84
Unengaged	2	1	0	0	3
Total	25	55	13	07	100



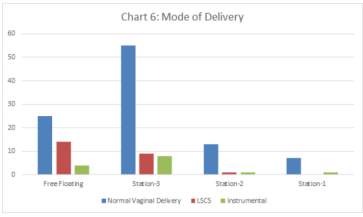
5: AVERAGE DURATION OF LABOUR

Group	First Stage (Hours)	Second Stage(Minutes)	Third Stage (Minutes)	Total
Free Floating	13.6	54	8.20	14.94
Station -3	12.22	40	8.15	13.43
Station -2	8.31	26	8.03	9.37
Station -1	8.02	24	8.15	9.07



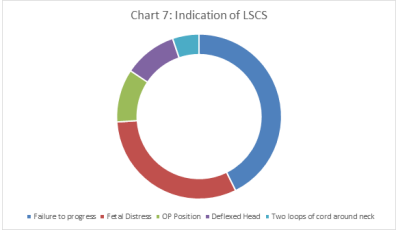
6: MODE OF DELIVERY

Station	Normal Vaginal Delivery	LSCS	Instrumental	Total
Free Floating	25	14	4	25
Station -3	55	9	8	55
Station -2	13	1	1	13
Station -1	7	0	1	7



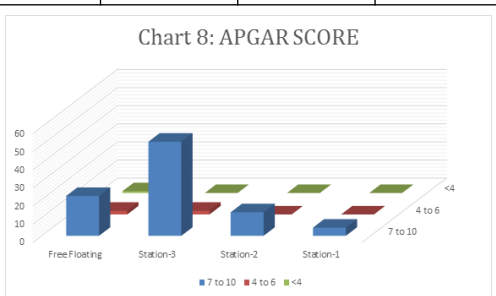
7: INDICATIONS OF LSCS

INDICATION	NUMBER OF CASES
Failure to progress	13
Fetal Distress	6
Occipitoposterior position	2
Deflexed Head	2
Two loops of cord around neck	1



8: PERINATAL OUTCOME

Group	Apgar Score		
	7 to 10	4 to 6	<4
Free Floating	22	02	01
Station -3	52	02	00
Station -2	13	00	00
Station -1	07	00	00



9: MEAN BIRTH WEIGHT IN RELATION TO STATION OF HEAD

Station	Mean Birth Weight
Free Floating	3.30
Station -3	3.02
Station -2	2.56
Station -1	2.50

DISCUSSION:

The present study was carried out at a tertiary hospital in Ahmedabad on 100 full-term primigravida with unengaged head. The maximum cases belonged to the age group of 21-25 years, the weeks of gestation most commonly being between 39.1 to 40 weeks of gestation. Labour was induced in the postdate group with cerviprime gel (40.1 weeks to 41 weeks-18 cases), while the rest of the 72 patients presented with spontaneous labour pain.

Out of 100 patients, 25 patients had free-floating head on admission, 55 patients presented with station-3, 13 with -2 fetal head station and remaining 7 patients with -1 station.

In present study, caesarean section rate was 24%. The rate is comparable to other studies carried out- Kaur D *et al*.[6], Chaudhry *et al*.[7], and Mahendra *et al*.[5].

Non progress of labour was the most common indication for Caesarean section in the present study (13%). Among the other aetiologies, 6% cases underwent Caesarean section for Fetal distess, 2 % cases were Eventually found to have occipito-posterior position of fetal head with failure of rotation, 2% cases had de flexed head and only one case had two loops of cord around fetal neck

Eventually almost every patient with unengaged head experienced fetal head engagement during either active/latent phase of labour except for two cases in Free-floating head category and one patient with fetal head station at -3. Out of the three, two underwent LSCS for fetal distress, and the third one was posted in view of non-progress of labour (eventually diagnosed with two loops of cord around neck-intraoperative finding).

According to a similar study carried out by Salma Iqbal[8], total duration of labour was more than 12 hours in about 66% of cases and 64% of cases in another study carried out by Ambwani et al.[3]. In the present study, there was no significant increase in the duration of labour.

Average fetal weight on birth was 3.3 kg in free floating head group, 3.02 in patients with fetal head station at -3, 2.56 in those with -2 station and 2.5 in those with station -1. And hence it can be inferred that time of engagement bears a significant association in relation to fetal weight, with babies with more FW tending to experience engagement during relatively later events of labour.

With regards to perinatal outcome, only one baby out of 100 had apgar score <4 and required resuscitation. No perinatal mortality was observed.

Maternal complications like perineal tear was observed in 5 cases, 3 in FF group,

1 in -3 group and 1 in -2 group, and cervical tear was seen in 3 cases, 2 in FF and 1 in -3 group.

CONCLUSION

In conclusion, the perinatal and maternal morbidity associated with high fetal head stations at the onset of labour is negligible. A slight prolongation of duration of labour and increased incidence of operative interventions can be expected, but unengaged head in primigravida cannot be justified as an indication for caesarean section if no etiological factors are elicited for the same. A dutifully monitored partograph analysis, a constant vigilant attitude and timely intervention whenever indicated are keys to a successful outcome.

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