

OUTCOME OF PRIMIGRAVIDA WITH HIGH FOETAL HEAD AT TERM OR ONSET OF LABOUR

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Abstract

Objective: To determine the causes of high foetal head and their relative frequencies in primigravidae presenting at term and to determine the proportion of these patients undergoing lower segment caesarean section or vaginal delivery.

Design: A descriptive study.

Place and duration of study: The study was carried out at Mugda Medical College Hospital from March 2017 to June 2017.

Materials and Methods: A total of 50 primigravidae patients presenting at term and having a single pregnancy were randomly selected. On the basis of history, Physical examination and abdominal ultrasonography, patients having a high foetal head were recognized and their causes documented.

Results: Out of 50 primigravidae, with high foetal head there was foetal malpresentation 17(34%), Cephalopelvic disproportion 13(26%), Foetal distress 12(24%). Lower segment caesarian section was the management of choice in more than half of the patients with high foetal head.

Conclusions: Foetal malpresentation & Cephalopelvic disproportion were the major cause of high foetal head in this study and lower segment Caesarean section was the mode of delivery in more than half of the patients with high foetal head.

Keywords : High foetal head, cephalopelvic disproportion, lower segment caesarean section

J Dhaka Med Coll. 2017; 26(2) : 122-125

Introduction

A high foetal head in primigravidae at term is regarded as a risk factor for obstructed labour or dystocia¹ and is indeed major contributor of maternal mortality. Since safe delivery is obstetrician's goal in such cases, it is customary to manage these cases by lower segment caesarean section (LSCS). This has led to an increased rate of LSCS² with its financial implications and future family size restriction for the patients.

Studies, however, show that depending upon the cause, many primigravidae with high foetal head can be given a trial of labour and can be successfully delivered vaginally³. Finding the cause, therefore, is the first step towards spontaneous or assisted vaginal delivery. The

foetal head would remain high whenever there is obstruction in powers, passages and the passenger. This pertains to both bony as well as soft tissue aspects of mother and foetus and includes uterine and extra uterine causes and includes cephalopelvic disproportion (CPD)³, foetal malposition⁴, large size of fetus⁵, soft tissue masses in the pelvis such as uterine fibroids, ovarian tumors, placenta previa and even faecal impaction has been reported to obstruct descent of foetus in labour⁶. The frequency of causes of non engaged foetal head varies in different countries according to prevalence of type of pelvis, nutritional status and a trend towards heavier babies.

Keeping in view the prevailing high rates of LSCS in primigravidae with high foetal head at

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Received: 21 July 2017

Revision: 01 August 2017

Accepted: 01 September 2017

DOI: <http://dx.doi.org/10.3329/jdmc.v26i2.38827>

term, the present study was carried out to document the frequency and causes of high foetal head in primigravidae and to determine the outcome of management, whether LSCS or vaginal for various cau

Materials and Methods

A total of 50 primigravidae at term, aged 18-34 years and having a singleton pregnancy reporting to Gynae & Obstetrics department of Mugda Medical College Hospital, were selected by random sampling technique from March 2017 to June 2017. This is a descriptive study. Exclusion criteria: Primigravidae with history of previous uterine surgery or having gross foetal abnormalities, polyhydramnios and intrauterine foetal death were excluded from the study. After taking a detailed medical and obstetric history, these patients underwent a thorough physical examination including obstetric examination. Abdominal ultrasonography was then carried out for assessment of foetal biometric parameters and delineating any uterine or ovarian mass. Maternal, foetal and placental causes of high foetal head were assessed on the basis of history, examination and investigations. The patients were then segregated in two groups: those in whom the underlying cause of high foetal head required direct cesarean section and the second in whom a trial of labor was considered. In the second group in whom a trial of labor was undertaken, monitoring of maternal vital signs, her hydration status and uterine contractions were carried out, while foetal monitoring included intermittent auscultation. The overall progress of labor was monitored by a partogram. The mode of delivery, whether, spontaneous or assisted vaginal or abdominal was chosen according to the maternal and foetal progress in labor and the underlying causes were noted.

Results

Out of 50, high head Primigravidae patients, aged 18-34 years, presenting at term, there was foetal malpresentation 17(34%), Cephalopelvic disproportion 13(26%), foetal distress 12(24%),

large foetal size 5(10%), Placenta previa 2 (4%) and uterine fibroid 1(2%). (fig. 1). Percentages of difference outcomes are given in (fig. 2). Among 50 patients, 32 (64%) were subjected to direct LSCS. These included patients having malpresentation (n=9) CPD (n=13), foetal distress (n=4), Large foetal size (n=3), placenta previa (n=2) and lower uterine segment fibroid (n=1). A total of 18 (36%) patients underwent trial of labour. Out of these 18 patients 8 (16%) patients underwent emergency LSCS including all the 5 patients with foetal distress. Two patients having foetal malpresentation and 1 patient in whom no cause for a high foetal head could be determined. Among those 18 patients, another 10 (20%) patients had spontaneous vaginal delivery including 6 patients having foetal malpresentation, another 2 patients having weight more than 4 kg, and 2 patients without any discernable cause.

Table-I

Etiology of nonengaged head

Apparent etiology	Number (n-50)	Percentage (%)
Malpresentation	17	34%
Cephalopelvic disproportion	13	26%
Foetal distress	12	24%
Large foetal size	5	10%
Placenta praevia	2	4%
Uterine fibroid	1	2%

Table-II

Mode of delivery

Mode of delivery	Number (n-50)	Percentage (%)
Direct LSCS	32	64%
Spontaneous vaginal delivery	10	20%
Emergency LSCS	8	16%

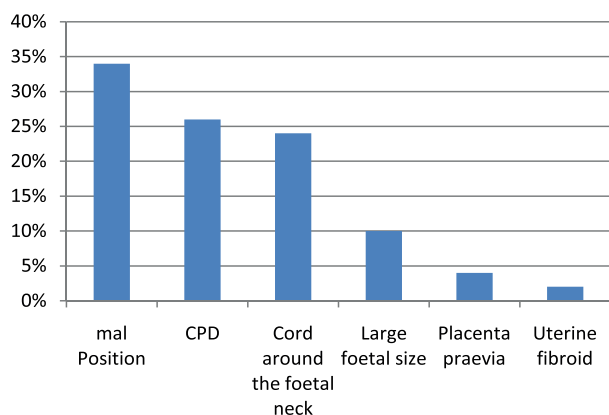


Fig.-1: Percentage of causes of high foetal head at term

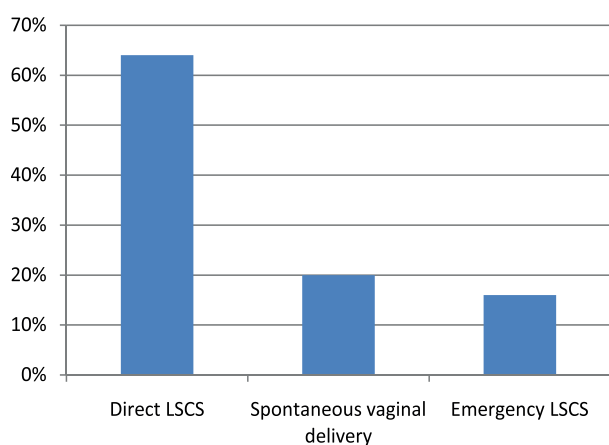


Fig.-2: Percentage of outcome

Maternal morbidity was higher in women with nonengaged head

Table-III
Maternal morbidity

Maternal morbidity	Number (n-50)	Percentage (%)
Perineal tear	2	4%
PPH	8	16%
Wound infection	7	14%
Hospital stay >2 days	12	24%

Table-IV
Foetal outcome (Apgar scores at 5 minutes)

Apgar at 5 mins	=n
7-10	39
4-6	8
3	3

Discussion

In the last two decades, the rising rate of LSCS is under critical review. One of the main reasons of this escalation is direct LSCS of primigravidae with nonengaged foetal head at term which is a frequently encountered finding in obstetric practice. In our study, 58% primigravidae presenting at term had unengaged foetal head. This is supported by similar studies carried out over the past three decades by Weekes and Flynn ⁷, Takahashi and Suzuki ⁸, Kushtagi ⁹ and Oiegman et al ¹⁰, who observed high foetal head in 50%, 75%, 83% and 69% of their patients, respectively. Interestingly, all these studies did not observe any significant difference in labour outcomes between nulliparous women with engaged or non engaged foetal head at onset of labour.

The main causes of high foetal head in our study were CPD and foetal malpresentation. A similar finding is documented by Mokasha FM ¹¹, Trevino Tamez et al ¹², Bolaji, Meehan FP ¹³ and Gayam A ¹⁴. These studies concluded that foetal malposition is the most common cause of non engaged foetal head especially in teenage primigravidae. A high incidence of CPD was also noted in this age group. Plausible explanations of these observations were that young pregnant subjects have an inadequately developed small pelvis as compared to the foetal size, to allow normal rotation, adaptation and smooth passage to the foetus. This leads to foetal malposition and CPD. Another five year study at National Maternity Hospital at Dublin observed that persistent occipitoposterior (OP) position (24%) and CPD (11%) were the main causes of high foetal head in primigravidae patients ¹⁵. In our study, persistent OP position was observed in only six primigravidae having high foetal head, whereas other causes of high foetal head like foetal, placenta praevia, cord around foetal neck and uterine fibroids occurred with even much less frequency. An important observation of this study was that no cause could be ascertained in 1 subjects.

Out of 50 patients with high foetal head, 32 (64%) patients underwent LSCS while 10 (20%) Patients delivered vaginally when given a safe trial of labor, with satisfactory maternal and foetal outcome. The subjects undergoing LSCS

included all patients having CPD, placenta previa, patients having umbilical cord around foetal neck, uterine fibroids. This finding is in line with the Mexican study that observed a 45% LSCS rate in patients with high foetal head. Local studies by Qureishi et al ¹⁶, documented a frequency of 53% LSCS in these patients was due mainly to CPD and foetal malposition ¹⁷ observed a 24% LSCS rate in primigravidae with high foetal head. These studies also - observed that spontaneous onset of labor in such patients was a predictor of successful normal vaginal delivery and therefore a significant number of operative deliveries could be avoided even in this high risk group of patients by giving them a safe trial of labor. A study by Murphy ¹⁸ implied foetal macrosomia (foetal weight > 4kg) and OP -position as risk factors for LSCS, but recommended vaginal delivery in these subjects unless these risk factors were compounded by concurrent CPD.

Conclusions

Foetal malpresentation & cephalopelvic disproportion were the major cause of high foetal head in this study and lower segment Caesarian section was the mode of delivery in only 64% of these high risk subjects.

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