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Outcomes of Fetal Malpresentation Beyond 28 Weeks of Gestation at a Tertiary-Level Hospital

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Abstract **Original Research Article**

Background: The term malpresentation encompasses any fetal presentation other than vertex, including breech, face, brow, shoulder, and compound presentations. Both fetal and maternal factors contribute to the occurrence of malpresentation. ***Objective:*** To determine the outcomes of fetal malpresentation beyond 28 weeks of gestation at a tertiary-level hospital. ***Material and Methods:*** It was a cross sectional descriptive type of observational study carried out in the Department of Obstetrics & Gynaecolgy, Mymensingh Medical College Hospital, Mymensingh during the period of March 2019 to August 2019.Structured questionnaire including history and physical examination of pregnant women were included in data collection sheet-and analysis was done by computer software SPSS version 20. ***Results:*** This study shows majority of the women 20(40%) were in the age group of 26-30 years. The average age was 29.9 years. The common fetal malpresentation was breech presentation 35(70%) followed by5(10%) was brow presentation, 5(10%) was shoulder presentation and 3(6%) was compound presentation and maximum seen in multiparity 20(40%) Regarding mode of delivery, 15(30%) delivered vaginally and 35(70%) had to do caesarean section. 13(26%) women suffered from complication during labour. Most common fetal morbidity were birth asphyxia 10(20%) and perinatal mortality was 2(4%). ***Conclusion:*** It was observed that major fetal morbidities were low birth weight, birth asphyxia and perinatal infection. Majority patients were delivered by caesarean section. Identification of the cases that require caesarean section, and allowing appropriate and safe trial of labour and vaginal delivery (if no contraindication) require clinical experience and technical skill. The obstetricians should acquire and maintain such knowledge through clinical exposure and attending obstetric emergency skill courses.

Keywords: malpresentation, fetal morbidities, caesarean section.

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INTRODUCTION

Malpresentation means presenting of the fetus to the lower pole of the uterus during child birth in a presentation other than vertex [1]. It includes breech, face, brow and shoulder as well as compound presentations that involve more than one fetal part including a combination of the head or breech with a limb or umbilical cord or a combination of limbs with or without umbilical cord [2]. It refers to the fetus that does not present to the maternal pelvis by vertex alone, this is usually associated with dangers to both mother and fetus and demands intervention [3]. Primary operative interference is often required in malpresented fetus with consequent surgical and anesthesia related morbidiy [4]. It may be associated with maternal factor which includes-contracted pelvis, polyhydramnions, multiple pregnancy, anomalies of the uterus (congenital or acquired, e.g. septate uterus, subseptate uterus, arcuate uterus, lower segment fibroids) or pelvis, placental factors –(placenta previa, cornufundal placenta, placental tumor), fetal factors like preterm labour, anomalies of the fetus (neck mass, CNS malformation, anuploidy) [5, 6].

There is higher incidence of breech in earlier weeks of pregnancy, smaller size of the fetus and

comparatively larger volume of amniotic fluid allow the fetus to undergo spontaneous version [7]. Preterm delivery is associated with a high prevalence of breech presentation, nearly 25-30% of the fetus present in a breech presentation at 28 weeks of gestation while the percentage decreases to 4% in term pregnancy [8]. Responsible factors are prematurity, twin, oligohydramnios, bicornuate uterus, short cord, intrauterine death, hydrocephalus, anencephaly [9]. In many countries, ceasarean section is applied for preterm breech presentation, perinatal mortality in vaginally delivered premature breech babies was much higher while there was no perinatal mortality in caesarean delivered babies [10].

Effect of malpresentation to fetus are, trial of labour causing excessive moulding, high risk of hypoxia, birth injury, intrauterine infection and perinatal death, high risk of cord prolapse, higher risk of aspiration of liquor and meconium [11].

Intrapartum deaths are largely avoidable through proper antenatal, intrapartum and postnatal care and therefore closely related to the place of birth and availability of qualified birth attendants.[12] In developing countries just over40% deliveries occurred in health facilities [13]. Safe motherhood is a global effort to reduce maternal death by three-fourth and child mortality by two-third by 2015(MDG4/MDG5) [11].

Objective

In this study, our primary objective is to examine the outcomes of fetal malpresentation beyond 28 weeks of gestation at a tertiary-level hospital.

METHODOLOGY

Study design: It was cross sectional descriptive type of observational study.

Place of study: Mymensingh Medical College Hospital, Mymensingh.

Duration of study: March 2019 to August 2019

Study population

Pregnant women with fetal malpresentation from 28 weeks to 42 weeks admitted in labour and antenatal ward in MMCH during study period.

Sample size

Total 50 sample were included in this study.

$$\frac{Z^2pq}{d^2} = \frac{(1.96)^2 \times 0.3 \times 0.7}{(0.05)^2} = 322$$

As there is time and Budgetary constraint 50 cases will be taken for this study.

Sampling technique

It was purposive non random sampling

Inclusion criteria:

- Pregnancy with fetal malpresentaion
- Both primi and multipara
- Gestational age completed 28 weeks to 42 weeks
- With or without labour pain

Exclusion criteria:

- Gestational age <28 weeks
- Patient who did not give consent

Data Collection and Procedure:

Women who fulfilled the inclusion criteria were enrolled in this study. Data were collected from admitted patients by using a structural questionnaire containing all the variable of interest. The questionnaire were finalized following pretesting.

Data analysis procedure:

After collection of the required information, data were checked and edited manually and data were analyzed using statistical package for social science (SPSS) for windows version 16.

Ethical issues:

Prior to the commencement of this study, the research protocol were approved by the ethical committee. The aims and objectives of the study along with its procedure, alternative diagnostic methods, risks and benefits of this study were explained to the patient's in easily understandable local language and then informed written consent was taken from each of them. It was assured that all information and records would be kept confidential and the procedure would be helpful for both the physicians and the patients in making rational approach of the case management.

RESULTS

Table shows maximum40% were age group between 26-30 years. The average age was 29.9 years.

Table-1: Age distribution of mother

Age in years	Frequency	Percentage (%)	Mean±SD
≤20	10	20.0	
21-25	10	20.0	29.9±5.7
26-30	20	40.0	
31-35	5	10.0	
>35	5	10.0	
Total	**50**	**100.0**	

Majority 70% were breech presentation followed by 10% were brow presentation,10% were shoulder presentation, 6% were compound presentation and least found 4% were face presentation.

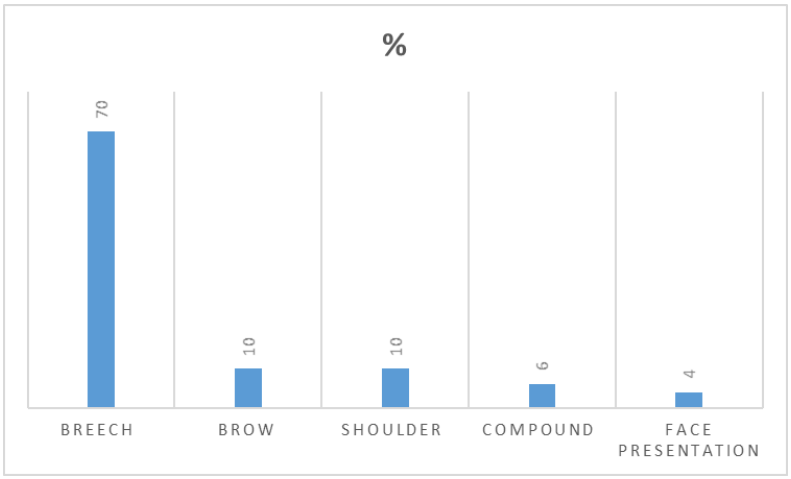

Figure-1: Distribution of patient according to types of malpresentations (n=50)

Maximum 70% delivered by caesarean section and only 10% delivered by assisted breech delivery.

Table II: Mode of delivery (n=50) of patients

Mode of delivery	Frequency	Percentage (%)
Vaginal delivery	10	20
Assisted breech delivery	5	10
Caesarean section	35	70
Total	**50**	**100.0**

Table shows APGAR score of 60% babies were>7 at 1 minute and 90% babies were >7 at 5 minute

Table III: Distribution of Apgar score among malpresented babies (n=50)

Time	Apgar score	Frequency	Percentage %
At 1 minute	<7	20	40
	>7	30	60
At 5 minute	<7	5	10
	>7	45	90

Table shows maximum babies had birth weight of were 2.5 kg-2.99kg 50% and minimum 10% babies birth weight were 3.5kg-4kg

Table IV: Birth weight among malpresented babies (n=50)

Birth weight	Frequency	Percentage (%)
<2.5 kg	10	20
2.5-2.99 kg	25	50
3 kg-3.5 kg	10	20
3.5kg-4kg	5	10
Total	**50**	**100.0**

Table shows survival frequency 100%by caesarean section, 90% by vaginal delivery and 80% by assisted breech delivery.

Table V: Perinatal outcome in relation to according to mode of delivery.

Mode of delivery	Frequency of live birth	Survival Frequency and percentage
Vaginal delivery	10	9(90%)
Assisted breech delivery	5	4(80%)
Caesarean section	35	35(100%)
Total	**50**	**48**

Table shows most common fetal morbidity was birth asphyxia (20%). Perinatal mortality was 4%.

Table VI: Status of malpresented babies during perinatal period (n=50)

Parameter	Frequency	Percentage (%)
Healthy	40	80
Birth asphyxia	10	20
Referred to NICU (n=10)		
Alive	8	16
Dead	2	4

Most common fetal morbidity was birth injury 6%. Perinatal mortality was 4%.

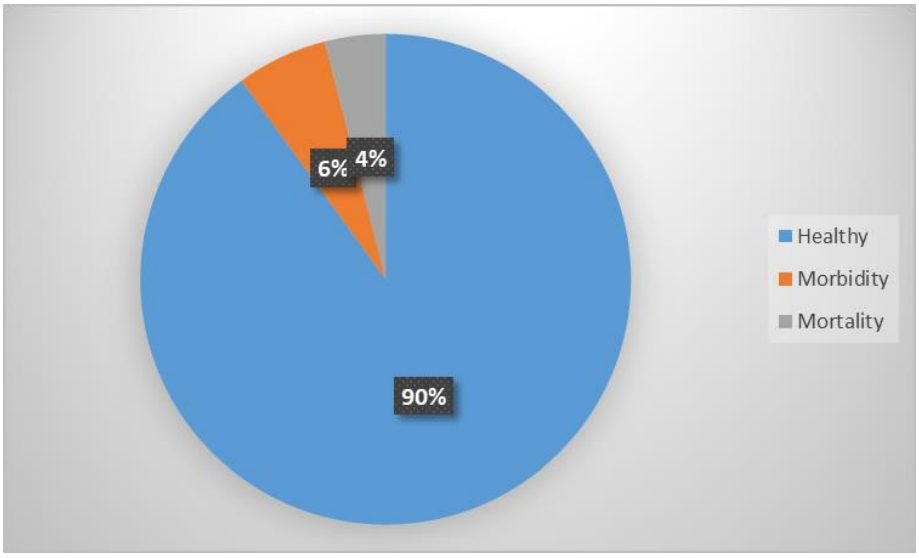

Figure-2: Fetal outcome (n=50)

DISCUSSION

In the present study the maximum 40% patients belonged to age group 26-30years. In the reports done by two studies maximum number of cases were in age group 25-29 years. ln this study mean age group was 29.9±5.7 years [14-15]. This findings consistent at with other study [16] where mean age was 24.45 years.

In this study majority of fetal malpresentation was breech presentation70%. This findings consisted at with other study, where they found 82.5% were breech presentation [17]. In the National Center for Health Statistics reported that 84.2% of pregnancies with breech presentation in the USA [18].

In this study maximum (70%) were delivered by caesarean section. Maximum women present at 32 to 35 weeks of gestation 40% majority were done at >36 weeks of gestation. The present study is consistent with other study where malpresentation is one of the main indication which contribute to increase in the caesarean section rate in any center [19-20]. ln Brazil, the rate of cesarean section for breech presentation were 100%.

Another study reported on 15,818-singleton term breech vaginal deliveries conducted in Sweden [21]. The authors of this large study indicated that most obstetricians in Sweden followed the recommendation that breech vaginal delivery should be attempted only if the following conditions are met: gestational age is more than 34 completed weeks, estimated fetal weight (by ultrasound) is more than 2000 grams but less than 4000 grams and pelvic size considered adequate after pelvimetry. Nevertheless this very large retrospective cohort study concluded that vaginal delivery of term breech presenting fetus is associated with higher risk of neonatal mortality and morbidity compared with delivery by elective cesarean section. Term singleton infants in the breech presentation found better out come from an elective cesarean section.

ln 2001 the Cochrane registry has observed that 550 of 1227 (45%) women with term breech presentations assigned to vaginal delivery protocols were delivered by cesarean section and that planned cesarean delivery was associated with greatly reduced risks of perinatal and neonatal death [22].

In this study, Apgar score of >7 after 5 minutes was recorded in 45 babies (90%) and 5 babies (10%) had an Apgar score of less than 7 after 5 minutes. There was

2(4%) neonatal death due to cordprolapse with prolonged interval between diagnosis and delivery.

CONCLUSION

Major fetal morbidities were low birth weight, birth asphyxia and perinatal infection. Majority patients were delivered by caesarean section. Identification of the cases that require caesarean section, and allowing appropriate and safe trial of labour and vaginal delivery (if no contraindication) require clinical experience and technical skill. The obstetricians should acquire and maintain such knowledge through clinical exposure and attending obstetric emergency skill courses.

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