

**Original Research Article**

A Study on Fetomaternal Outcome of Breech Presentation in a Tertiary Care Hospital

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Abstract

Background: *The aim of the study was to find out the incidence, maternal and fetal outcome of breech presentation in a tertiary care hospital.*

Methods: *The present retrospective study was carried out in the department of Obstetrics and Gynaecology of IMS & SUM HOSPITAL, Bhubaneswar, Odisha from March 2016 to April 2018. Total 97 cases were included in this study. The demographic data like age, parity, gestational age, mode of delivery, maternal and perinatal outcome were noted from hospital records and studied.*

Results: *The incidence of breech was found to be 2.6% in patients attending the IMS & SUM HOSPITAL. 47 % cases were in the age group of 20-25 years and 28% were in age group of 26-30 years. In the present study, primigravidas constitute 52% of cases. Most of the cases were delivered by caesarean section (88%) which were associated with PIH, oligohydramnios and PROM. Perinatal morbidity was seen to be higher in babies delivered vaginally (63%) as compared to 16 % in cases delivered by caesarean section.*

Conclusion: *Breech presentation is associated with adverse maternal and fetal outcome. Caesarean section does not totally eliminate the associated maternal and perinatal morbidity. The mode of delivery in breech presentation should be specified based on type of breech, stage of labour, fetal wellbeing and availability of skilled obstetrician.*

Keywords: *Breech presentation, caesarean section, maternal and perinatal outcome, mode of delivery.*

Introduction

Among all the malpresentation, breech presentation is the commonest one and it accounts for is 3-4% at term⁽¹⁾. Incidence is about 20% at 28th week of pregnancy and drops down to 5% at 34th week due to spontaneous correction⁽¹⁾.

The cause of breech presentation is mostly attributable to causes like prematurity, decreased

amniotic fluid, uterine and fetal anomalies and placenta previa etc.^[1]

The management of breech delivery continues to be debatable. The term breech trial was taken up by Hannah et al in 2000, to determine the mode of delivery in breech presentation that has better outcome. It found a significant difference in the serious short term neonatal morbidity [1% vs

0.45%] between term breech delivery by trial of labour and planned caesarean section cases^[2].

A more recent Cochrane review in 2015 published a more than ninety percent reduction in perinatal mortality and neonatal morbidity in planned caesarean section^[3]

The PREMODA study published in 2006 by Goffinet et al was a descriptive study four times larger than term breech trial outcomes of which contradicts with those of TBT^[5]. There was no difference in perinatal mortality [0.08% vs 0.15%] or serious neonatal morbidity [1.6% vs 1.45%] between Trial of labor and planned caesarean section in this study.^[4]

RCOG guidelines revised in 2017 clearly states that planned vaginal breech delivery can be as safe equivalent to planned vaginal cephalic delivery taking into account the case selection of appropriate pregnancies and availability of skilled intrapartum care.^[5]

In this study we have tried to find out the current trends in breech management in our hospital and the maternal and perinatal outcome in breech deliveries.

Materials and Methods

This retrospective study was carried out in the Obstetrics and Gynaecology dept of IMS & SUM Hospital, Bhubaneswar from march 2016 to April 2018.

The study population includes women with singleton breech presentation after 28 weeks of gestation. Exclusion criteria includes patients with anomalous babies, twins and intrauterine deaths. The hospital records were studied for demographic data, age, parity, gestational age at birth, mode of delivery, indication of caesarean section, birth weight, apgar score, admission to NICU and neonatal morbidity were noted .The maternal and fetal outcome were studied and analysed.

Results

Total number of deliveries in the study period was 3660.Total number of breech deliveries after 28 wks of gestation was 97.

In this study the incidence of breech presentation was found to be 2.65% similar finding of 2.1% was found in a study by Abha singh et al^[6]. The prevalence found in Nigerian study [1.7%,1.4% and 1.9%].^[7]

Table 1: Incidence of breech according to the age of the patient. (n=97)

Age distribution	No of cases	percentage
<20 years	nil	nil
20-25 years	46	47.42%
26- 30 years	28	28.86%
>30 years	23	23.75%

In table 1, we found that 47.42% were in the age group of 20-25 years and 28.86% were in age group of 26-30 years as compared to 23.75% in age group of more than 30 years.

Table 2 Distribution according to parity. (n=97)

Parity	No of cases	percentage
primigravida	51	52.57%
Gravida 2	34	35.05%
Gravida 3 and above	12	12.37%

In our study, primigravidas constitute 52.57% and multigravidas constitute 47.43%.

Table 3: Gestational age at the time of delivery. (n=97)

Gestational age	No of cases	%
28-32 weeks	6	6.25
32-36 weeks	15	15.46
>36 weeks	76	78.35

From Table 3, we see that majority of cases i.e. 78.35% were more than 36 weeks at the time of delivery as compared to 15% were between 32 to 36 weeks while only 6 % were among 28 to 32 weeks.

Table 4: Mode of delivery (n=97)

Gestational age	Vaginal delivery	percent age	Caesarean section	percent age
Preterm (<37wks)	8	8.2	26	26.8
Term(>37wks)	3	3.1	60	61.9
total	11	11.3	86	88.7

Table 4 shows that 88.7% cases were delivered by caesarean section and 11.3% were delivered vaginally.

Table 5: gestational age at the time of admission (n=97)

Gestational age	No of cases	percentage
Preterm(37 wks)	34	35
Term(>37 wks)	63	65

From Table 5 we found that 65% of admitted cases were term and 35% were preterm.

Table 6: Distribution according to birth weight (n=97)

Birth weight	No of cases	percentage
<2.5 kg	36	37.11
2.5-3.5 kg	59	60.82
>3.5 kg	2	2.06

Table 6 shows that 60% babies were in birth weight range from 2.5 -3.5 kg ,37% were <2.5 kg and only 2% were > 3.5kg.

Table 7: NICU Admissions: n=21

Mode of delivery	No of cases	percentage
Vaginal delivery	7	63.6
Caesarean section	14	16.2

Table 7 shows that out of 97 babies delivered 21 were admitted to NICU. Out of 86 cases delivered by caesarean section, 14 were admitted to NICU (16.2%) while out of 11 cases delivered vaginally, 7 cases were admitted to NICU (63.6%).The causes of NICU admission were either due to prematurity, IUGR or due to respiratory distress syndrome.

Table 8: Neonatal morbidity (n=97)

complications	No of cases	percentage
preterm	34	35
IUGR	3	3.1
RDS	12	12.3

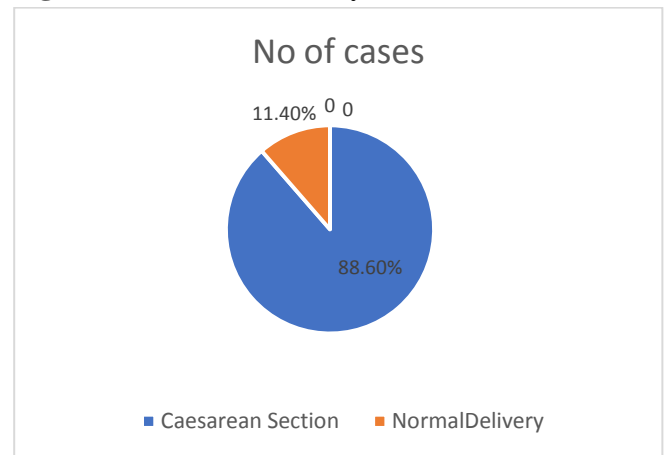
Table 8 shows that out of 97 babies delivered, 34% were preterm, 3.1% were IUGR and 12.3% were having respiratory distress syndrome.

Table 9: Maternal morbidity (n= 97)

Complications	No of cases	percentage
No complications	79	81.4
PROM	9	9.2
PPH	5	5.1
Perineal injuries	4	4.1

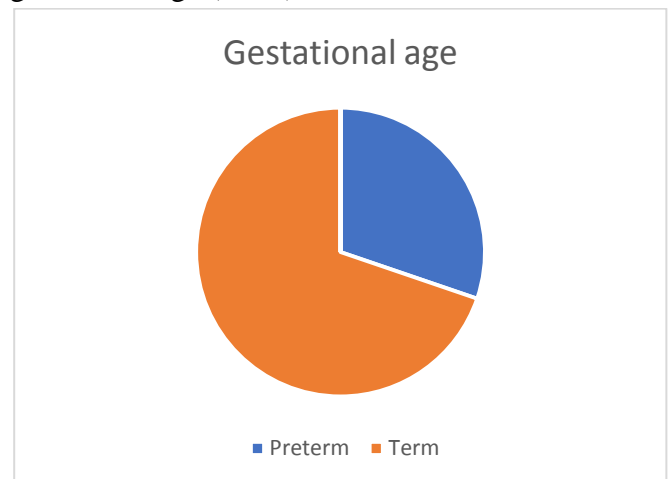
Table 9 shows that the maternal morbidity was 9.2% due to PROM, 5.1% due to PPH and 4.1% due to perineal injuries.

Figure 1: Mode of delivery (n= 97)

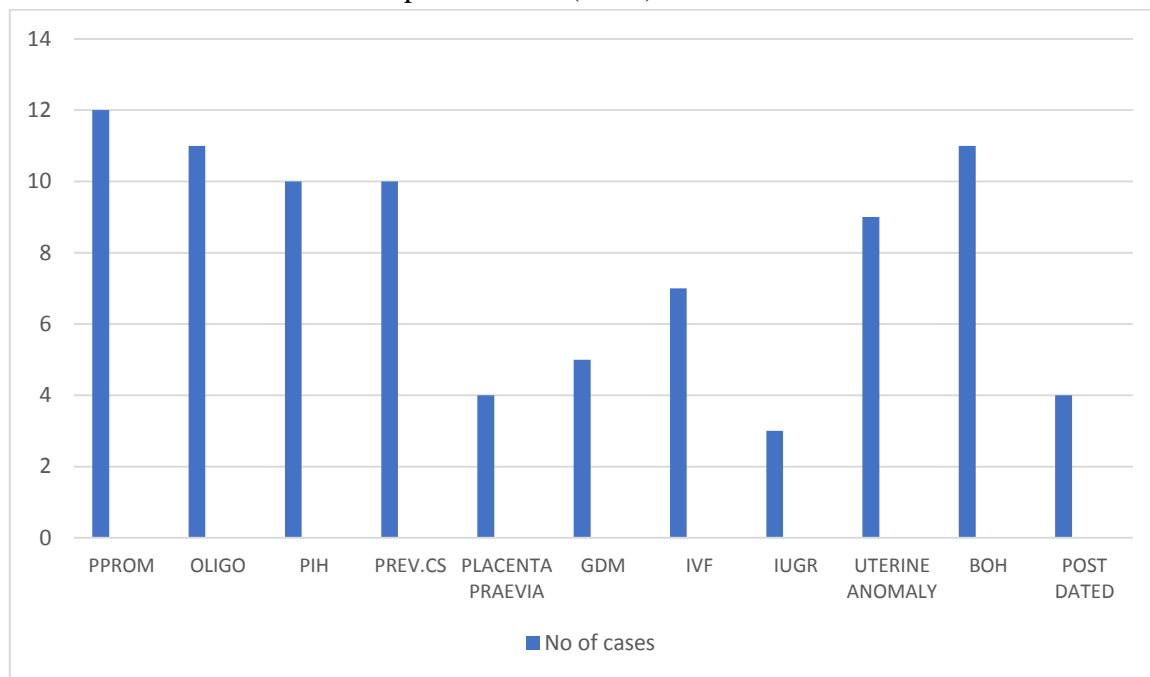


From Figure 1, we see that, most of cases of breech presentation were delivered by caesarean section (88.6%) while only (11.4%) were delivered vaginally.

Figure 2: Incidence of LSCS in different gestational age (n=86)



As shown in Figure 2, 69.2% of caesarean cases were in term patients while 30.7% caesarean were in preterm patients.

Figure 3: Indication of LSCS in breech presentation (n=86)

From figure 3, we see that majority of cases undergoing LSCS were associated with PPROM, Oligohydramnios, PIH, post LSCS and bad obstetric

Discussion

The incidence of breech presentation was 2.65% in our study. The distribution of pregnant women varied between 20 to 42 years. Maximum [47.42%] were in the 20-25 yrs age group. It is similar to a study by Hasan et al where age varied between 17 to 42 yrs and a mean of [28.96+6.491]^[8]

In our study 52.57% were primi, 35.05 % were second gravida and the rest were gravida 3 and above. This is similar to a study by Kavita et al^[9] where primigravida constituted 62% and 53% primi in a study by sonali et al^[10].

Most of the cases with breech presentation were associated with factors like oligohydramnios, uterine anomalies, intrauterine growth retardation and prematurity. In many instances breech presentation may be associated with fetal or uterine anomalies, hence it is important to look for fetal anomalies if there is breech presentation during routine ultrasound in antenatal period. Also, we should look for uterine anomalies during caesarean section in breech presentation.^[11]

In our study 88.5% of pregnant women underwent caesarean section and 11.34% delivered by vaginal breech delivery. Out of the 86 patients delivered by caesarean section 27 cases were elective case and 59 were emergency caesarean section. Similar finding of 96% delivered by caesarean section was found in a study by Kavita et al though in another Cameroonian study only 33.3% were delivered by caesarean section.^[9,12]

In our study, 53.48% of caesarean cases were primigravida. However Sanjivani et al has reported caesarean incidence of 20.5% of primigravida.^[13]

Out of 86 cases delivered by caesarean section, 14 cases were admitted to NICU (16.2%). Of the 11 cases delivered vaginally, 7 cases were admitted to NICU (63.6%). Hence, in our study perinatal morbidity was seen to be higher in patients undergoing vaginal breech delivery as compared to caesarean section.

Out of the 34 babies delivered before 37 wks, 12 mothers had preterm premature rupture of membrane. 7 patients had PIH of which as many as 6 had severe PIH and eleven mothers had bad obstetric history.

Prematurity was the main cause of NICU admission and majority of term babies delivered

by caesarean did not have any delivery related complications.

Conclusion

In the present study it was clearly found that most of the cases of breech presentation were delivered by caesarean section. Though perinatal morbidity is more in cases delivered vaginally as compared to caesarean section but caesarean section does not totally eliminate the associated maternal and perinatal morbidity.

In the PREMODA study by Goffinet et al it was found there is no significant difference in maternal mortality and morbidity comparing the two different methods of delivery.^[4] Hence, in cases of breech presentation, the mode of delivery should be specified based on type of breech presentation, stage of labour in which the patient is admitted, wellbeing of fetus and skilled obstetrician availability.^[5]

The vaginal mode of delivery in breech presentation is a persistent and inevitable part of obstetric practice. Emergency caesarean section in the active second stage of labour in a lady with breech with previous vaginal delivery is associated with great amount of maternal and neonatal morbidity [Alexander JM 2007, ASICIOglu o 2014, McDonells 2015]^[14,15,16]

Infrequency of conduct of vaginal breech deliveries is resulting in the deskilling of practising obstetricians [Turners and Maguize 2015, Hehir MP 2015]^[17,18]

Both RCOG and ACOG recommend that the method of external cephalic version can be used as an option to decrease the caesarean delivery rate associated with breech presentation.[Obstetric and gynaecology practice bulletin 161,2016. RCOG Greentop guidelines]^[5]

Hospitals should encourage the use of external cephalic version and obstetric trainees should learn to perform ECV when needed. Obstetric trainees should receive training in the management of a vaginal breech delivery to keep alive the dying the art.^[19,20,21]

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