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 in tertiary care system from 1st january2019 to 31st july2019. 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 2.65% in patients attending tertiary care system. 47.42 % cases were in the age group of 20-25 years and 28.86% were in age group of 26-30 years. In the present study, primigravidas constitute 39.27%of cases. Perinatal morbidity was seen to be higher in babies delivered vaginally (25.49%) as compared to 17.39 % in cases delivered by caesarean section. Conclusion: Breech delivery is a high risk pregnancy with adverse fetal outcomes during pregnancy and labour. Though caesarean section for breech presentation is not universally recommended, caesarean section can reduce the perinatal mortality and morbidity compared to vaginal birth for term breech pregnancy, but maternal morbidity was increased because of anaesthesia and operative interference. 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. [Mehta S Natl J Integr Res Med, 2019; 10(6):50-53]

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

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Introduction Breech presentation is when buttock of the fetus enters the pelvis first. The term breech derives from the same word as britches, which describes a cloth covering loin and thighs. It is a challenge to all the obstetricians when they faced with a breech presentation as it tests obstetrician's experience, skill & judgement. 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 [.08% vs 0.15%] or serious neonatal morbidity [1.60% 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].

Maternal complication with breech presentation are[6,7]: Increased operative vaginal delivery and cervical, vaginal &perineal trauma, Increased caesarean ratio and operative morbidity, ncreased anaesthetic complications, ncreased sepsis risk

Fetal complications in breech delivery includes[6,7]: Preterm & prematurity, Cord prolapse risk during vaginal breech delivery, Birth asphyxia and subsequent cerebral palsy due to cord compression or cord prolapse, aspiration of amniotic fluid & vaginal contents, prolonged & hard labor, Fetal injury (fracture of femur and humerus mainly, cervical & brachial plexus injury,

visceral injuries etc.), Intracranial hemorrhagedue to excessive compression and decompression of head.

ECV (External Cephalic Version)[6,7]is another option in breech presentation. With ECV, breech can be converted to cephalic, then delivered with cephalic presentation. 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.

Material & Methods : This retrospective study was carried out in the Obstetrics and Gynaecology dept of tertiary care system from 1st january 2019 to 31st july2019. The study population includes women with singleton breech presentation after 28 weeks of gestation.

Inclusion Criteria: All Singleton Breech delivered vaginally or abdominally after 28 week of gestation

Exclusion Criteria: IUFD (Intra-uterine Fetal Death),Anomalous babies, Multiple pregnancy, Pregnancy less than 28 weeks of gestation

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 2.10%was found in a study by Abha singh et al[8]. The prevalence found in Nigerian study [1.7%,1.4% and 1.9%][9].

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

Age	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	Present study	Saha and Nandi Study[10]	Abha Singh et al[8]
primi	39.27%	36.69%	40.40%
multipara	60.73%	63.61%	59.60%

By comparing the incidence of breech presentation with parity, it is concluded that from above table that incidence is higher in multipara than primi patient, which is also corresponding to the results of Abha Singh et al[8]&Saha and Nandi Study[10]. Incidence of breech presentation is higher in multipara due to lax abdominal wall.

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 6.25 % were among 28 to 32 weeks.

Table 4: Mode of delivery (n=97)

Series Study	Mode of Delivery	
	Vaginal Delivery %	Caesarean Sectoin %
Present study	52.57	47.42
Kebs& Weber[11]	20.60	79.40
Weisman & Hugay[12]	36.40	63.60
Koike & Minakami[13]	55.90	44.11

Table shows 52.57%(51 out of 97) patients delivered vaginally as compared to 47.42% (46 out of 97) delivered by caesarean section. Liberal use of caesarean section is widely being used nowadays to reduce perinatal morbidity and mortality in breech presentation. Cesarean section is widely used in primi breech patient nowadays. Whereas, multipara patients are delivered vaginally more.In modern era, due to one or two child norm, due to perinatal risk in vaginal breech delivery,patients electively chooses cesarean section over vaginal delivery to avoid fetal risk. So, the art of conducting vaginal delivery of breech presentation is slowly decreasing in number because of the liberal use

of caesarean section as an alternative approach to reduce neonatal morbidity and mortality.

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

Gestational age	No of cases	Percentage
Preterm(37 wks)	34	35.05%
Term(>37 wks)	63	64.94%

From Table 5 we found that 64.94% of admitted cases were term and 35.05% 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 60.82% babies were in birth weight range from 2.5 -3.5 kg ,37.11% were <2.5 kg and only 2.06% were > 3.5k

Table 7: NICU Admissions: n=21

Mode of delivery	No of cases	percentage
Vaginal delivery	13	25.49%
Caesarean section	8	17.39%

Table 7 shows that out of 97 babies delivered 21 were admitted to NICU. Out of 46 cases delivered by caesarean section, 8 were admitted to NICU (17.39%) while out of 51 cases delivered vaginally, 13 cases were admitted to NICU (25.49%).The causes of NICU admission were either due to prematurity, IUGR or due to respiratory distress syndrome. NICU admissions were more among those delivered vaginally, i.e, 13 out of 51, whereas 8 NICU admissions occured out of 46 delivered by cesarean section. Hannah ME et al showed that risk of adverse perinatal outcome is less in caesarean section compared to vaginal breech delivery[2]

Table 8: Neonatal morbidity (n=97)

Complications	No of cases	percentage
Preterm	34	35.05%
IUGR	3	3.09%
RDS	12	12.37%

Table 8 shows that out of 97 babies delivered, 35.05% were preterm, 3.09% were IUGR and 12.37% were having respiratory distress syndrome.

Table 9: Maternal morbidity (n= 97)

Complications	No of cases	percentage
No complications	79	81.44%
PROM	9	9.27%
PPH	5	5.15%
Perineal injuries	4	4.12%

Table 9 shows that the maternal morbidity was 9.27% due to PROM, 5.15% due to PPH and 4.12% due to perineal injuries.

Discussion : In this retrospective observational study,the incidence of breech presentation was 2.65% in our study, which is nearly comparable to Parkland Hospital data, Abha Singh et al, Saha&Nandy study and Saira Das et al study[8,10,14].

Incidence of breech presentation is different in primi and multipara patients. In multipara patients incidence is 60.73%, whereas in primi patients, it is 39.27%. It suggests that breech presentation is more common in multipara patients as it is a contributing risk factor for breech presentation. In multipara, due to lax abdominal wall, breech is more common.

At our institute, vaginal breech delivery was conducted in 52.57%, whereas Cesarean section was conducted in 47.42% patients. Vaginal breech delivery was conducted in more patients in our study as compared to Kebs& Weber study (20.60%)[11]and Weisman & Hugay study (36.40%)[12].

Rate of NICU admission is more among those babies delivered vaginally i.e, 13 out of 51, whereas NICU admission is 8 out of 46 delivered by cesarean section. This suggests that vaginal breech delivery is having higher risk of perinatal mortality and morbidity than cesarean breech delivery.

As breech delivery is considered as high risk delivery, it should be conducted at teriary care centre and an experienced & skilled obstetrician with operative facilities and NICU facilities should be available.

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 almost half of the cases of breech presentation were delivered by caesarean section. Breech delivery is a high risk pregnancy with adverse fetal outcomes during pregnancy and labour.

Though caesarean section for breech presentation is not universally recommended, caesarean section can reduce the perinatal mortality and morbidity compared to vaginal birth for term breech pregnancy, but maternal morbidity was increased because of anaesthesia and operative interference. 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.

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