# Study of Feto - Maternaloutcome of Breech Presentation With Singelton Pregnancy At Tertiary Care Hospital

**Shital Mehta*, Jignesh Chauhan**, Bina Raval***, Pushpa Yadava****, Vijeta Lilhare*****

* Associate Professor, **3rd Year Resident Doctor, *** Assistant Professor, **** Professor & Head, *****1st Year Resident Doctor, Obstetrics And Gynecology Dept In NHL Municipal Medical College And V S Hospital, Ahmedabad, Gujarat, India

**Abstract:** Background: The present study was undertaken to study the incidence, aetiology and obstetric outcome and fetal outcome of breech presentation in singlton pregnancy in a tertiary care hospital. Methods: This was a retrospective observational study conducted in the department of obstetrics and gynaecology attertiary care hospital from 1stJuly2016 to 30thJune 2017. 191 cases of breech presentation out of 9518patients registered for delivery were included in the study. Demographic data like age, parity, etiological factors of breech, mode of delivery, neonatal outcome were noted from case records. Results: The incidence of breech was 2.01% in pregnancies attending in our institute. Primi accounted for (39.27%) of the study group. Whereas, multipara accounted for (60.73%). Common etiologies of breech presentation were multipara (60.73%), Preterm(29.31%), oligohydramnios (8.37%) and uterine anomalies (1.57%).Neonatal outcome was good in breech delivered by caesarean section than in delivered vaginally. 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. Mode of delivery should be decided based on the maternal and fetal condition and obstetrician's skill. [Shital M NJIRM 2017; 8(6):11-15]

**Key Words**: Breech presentation, feto-maternal outcome, Mode of delivery

**Author for correspondence**: Jignesh R Chauhan, 2/570, Sidhheshwar Society, Near Bhaktinandan Circle, Near Tapovan, 80 Feet Road, Wadhwan City, Surendranagar – 363035. M: 8200765294 E-Mail: jrc3743@gmail.com

**Introduction:** Breech presentation is when buttock of the fetusenters 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.

Inspite of good antenatal care, new development in art of obstetrics and better hospital delivery facilities, breech delivery is still one of the major obstetric problems and is always considered as high risk for vaginal delivery as it is associated with multiple complications.

Breech account for 10-15% of all caesarean deliveries. Breech presentation is 3rd important indication for caesarean section in recent times.

There is lot of controversy regarding selection of candidate for trial of vaginal breech delivery. There is not enough evidence regarding the use of planned caesarean delivery for preterm babies, as well as term babies.[1,2] Caesarean section is increasingly used to deliver breech presentation to reduce neonatal mortality and morbidity. Still caesarean section does not eliminate the risk of neonatal morbidity completely, also it is associated with risks related to anaesthesia and operative complications (increased maternal morbidity).[3] Some studies have shown that mode of delivery doesn't influence long term outcome even in the presence of serious short term neonatal morbidity, whereas some suggest good neonatal outcome in elective lower segment caesarean section (LSCS) would definitely influence decision making regarding mode of delivery.[4-6]

Uneven fit of breech in pelvispredisposes to early rupture of membranes and subsequent cord prolapse. Incidence of cord prolapse in breech is 4-5%. It is higher in footling breech.[9,10]

If footling presentation is diagnosed during intrapartum period, strong consideration should be given to deliver by Cesarean section irrespective of gestation. A footling presentation may be associated with a cord presentation and therefore an amniotomy is best deferred to avoid cord prolapse. If the membranes rupture spontaneously in the presence of a footling presentation, a vaginal examination should be performed to exclude a cord prolapse.[9,10]

Breech is poor dilator of cervix in comparison to well flexed head, in breech delivery, labour, descent of breech & cervical dilatation are believed to be taking more time. This may lead to prolonged labour.[9,10]

Because of rapid passage of head through pelvis, there is no time for moulding to take place. So, there is increased risk of head entrapment and intracranial haemorrhage in fetus and subsequent cerebral palsy in vaginal breech delivery. [9,10]

**Maternal complication with breech presentation are9,10:**

- Increased operative vaginal delivery and cervical, vaginal &perineal trauma
- Increased caesarean ratio and operative morbidity
- Increased anaesthetic complications
- Increased sepsis risk

**Fetal complications in breech delivery includes[9,10]:-**

- 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)9,10is another option in breech presentation. With ECV, breech can be converted to cephalic, then delivered with cephalic presentation.

**Methods:** This is a retrospective observational study carried out attertiary care centre from 1stJuly2016 to 30thJune 2017.

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

**Exclusion Criteria:**

- IUFD (Intra-uterine Fetal Death)
- Multiple pregnancy
- Pregnancy less than 28 weeks of gestation.

**Results:**

**Incidence of Breech Presentation During Labour:**

| Study Series | Total Deliveries | Breech Presentation | % |
|---|---|---|---|
| Present Study | 9518 | 191 | 2.01% |
| Saha &Nandi8 | 8100 | 230 | 2.84% |

Our data shows incidence of breech presentation is 2.01%, but incidence in Parkland Hospital, USA is between 3.3% to 3.9% during past 30 years.[9] Incidence in Saira Das et al is 3%, Abhasingh et al is 2.1% and Cameroonian et al is 4.2%.At our institute, incidence of breech presentation is slightly lower than other studies.[11,12,13]

**Incidence & Parity:**

| Parity | Primi | Multipara |
|---|---|---|
| Present Study | 39.27% | 60.73% |
| Saha And Nandi [8] | 36.69% | 63.61% |
| Abha Singh et al | 40.4% | 59.6% |

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[12]&Saha and Nandi Study.[8] Incidence of breech presentation is higher in multipara due to lax abdominal wall.

**Types Of Breech Presentation:**

| Type of Breech | No. of Cases/191 | % |
|---|---|---|
| Frank | 97 | 50.78% |
| Complete | 90 | 47.12% |
| Footling | 4 | 2.09% |
| Kneeling | 0 | 0.00%. |

In our study, most common type of breech presentation is Frank breech(50.78%), complete breech (47.12%), footling breech (2.09%). In footling breech, all 4 patients were delivered by cesarean section.

**Mode of Delivery:**

| Series Study | Mode of Delivery | |
|---|---|---|
| | Vaginal Delivery % | Caesarean Sectoin % |
| Present study | 52.88% | 47.12% |
| Kebs& Weber[14] | 20.6% | 79.4% |
| Weisman & Hugay[15] | 36.4% | 63.6% |
| Koike & Minakami[16] | 55.9% | 44.1% |

Table shows 52.88% (101 out of 191)patients delivered vaginally as compared to 47.12% (90 out of 191) 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.

**Etiological Factors of Breech Presentation:**

| Causes | No. of Cases/191 | % |
|---|---|---|
| Multipara | 116 | 60.73% |
| Preterm | 56 | 29.31% |
| Oligohydromnios | 16 | 8.37% |
| Polyhydromnios | 9 | 4.71% |
| Placenta previa | 4 | 2.09% |
| Contracted pelvis | 4 | 2.09% |
| Uterine anamolies | 3 | 1.57% |
| Idiopathic | 28 | 14.66% |

Breech presentation may have multiple etiologies. In our study most common cause of breech presentation wasMultipara (60.73%), Preterm (29.31%), oligohydromnios (8.37%), Polyhydromnios (4.71%), placenta previa (2.09%), Contracted Pelvis (2.09%), Uterine anamolies (1.57%). 14.66% cases were idiopathic.

**Baby Weight:**

| Weight in Kg | No. of Fetus /191 | % |
|---|---|---|
| <1.5 | 1 | 0.52% |
| 1.5-2 | 20 | 10.47% |
| 2-2.5 | 56 | 29.31% |
| 2.5-3 | 89 | 46.59% |
| 3.0-3.5 | 21 | 10.99% |
| >3.5 | 4 | 2.09% |

In our study, maximum babies were delivered with breech presentation having birth weight between 2.5-3.0 kg (46.59%) and between 2.0-2.5 kg (29.31%) . In Abhasingh et al study66% babies had birth weight of 2.5-3 kg and 14% had 3.1-3.5 kg[12].

**Fetal Complications and Nicu Admission:**

| Causes | No. of cases/191 | % |
|---|---|---|
| Low Birth Weight (<2.5kg) | 77 | 40.31% |
| Prematurity | 56 | 29.31% |
| Birth Asphyxia | 12 | 6.28% |
| Cord Prolapse | 4 | 2.09% |
| Shoulder Dislocation | 2 | 1.04% |
| Shoulder Dystocia | 2 | 1.04% |
| Congenital Anamoly | 2 | 1.04% |
| Intracranial Hemorrhage | 2 | 1.04% |
| Humerus Fracture | 1 | 0.52% |

In our study, most common cause of NICU (Neonatal Intensive Care Unit) admission was preterm. 2nd most common cause was Birth Asphyxia.

5 babies died out of all 191 babies delivered with breech presentation. Perinatal mortality rate is 2.61%. Causes of perinatal mortalities are Prematurity, LBW & RDS.

NICU admissions were more among those delivered vaginally, i.e, 21 out of 101, whereas 12 NICU admissions occured out of 90 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[17].

**Discussion:** In this retrospective observational study, the incidence of breech presentation is 2.01%, which is nearly comparable to Parkland Hospital data, Abha Singh et al, Saha&Nandy study and Saira Das et al study.[8,9,11,12]

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 52.88%, whereas Cesarean section was conducted in 47.12% patients. Vaginal breech delivery was conducted in in more patients in our study as

compared to Kebs& Weber[14] study (20.60%)and Weisman & Hugay[15] study (36.40%).

Breech presentation has multiple etiologies. Most common is Multiparity followed by Preterm, oligohydromnios, Polyhydromnios, placenta previa, contracted pelvis, uterine anamolies etc.

Rate of NICU admission is more among those babies delivered vaginally i.e, 21 out of 101, whereas NICU admission is 12 out of 90 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 obstetricianwith operative facilities and NICU facilities should be available.

**Conclusion:** Perinatal morbidity and mortality rate have played a huge role in changing the plan how to deliver a breech baby. Feto-maternal morbidity can be significantly reduced with planned booked breech deliveries emphasizing the importance of antenatal care and breech delivery should be conducted at tertiary care centre.

As vaginal breech delivery is considered as high risk pregnancy due to its fetal complications (prematurity, low birth weight, birth asphyxia and birth injuries etc.)and maternal complications (perineal lacerations, operative interference etc). For successful outcome of vaginal breech delivery, an experienced and skilled obstetrician is must and it should be conducted at tertiary care centre. Vigorous intrapartum monitoring and proper technique of breech delivery have been established as the most important determinant for successful outcome in vaginal breech delivery without compromising feto-maternal well being and curtailing the caesarean section rate.

Caesarean section yields better perinatal outcome, but it also increases maternal morbidity & mortality due to anaesthetic and operative risks.

Carefully selection of women with breech presentation for vaginal delivery is must. Zatuchni Andros Breech Scoring System can be used for deciding the mode of delivery, i.e, vaginal delivery or Cesarean section.

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