



## AUDIT OF FETO-MATERNAL OUTCOME IN BREECH DELIVERY IN A TERTIARY HOSPITAL

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## ABSTRACT

**Background:** Breech presentation is a common malpresentation associated with increased risk of adverse maternal and perinatal outcomes. The decision for mode of delivery in such cases remains complex and requires individual assessment. **Methods:** This retrospective observational study was conducted from January to December 2024 in the Department of Obstetrics and Gynecology, MGM Medical College and Hospital, Aurangabad. A total of 87 singleton breech pregnancies were included. Data regarding maternal age, parity, gestational age, mode of delivery, complications, and neonatal outcomes were recorded and analyzed. **Results:** Breech presentation was most prevalent among women aged 18–25 years (62%). The majority of deliveries were by caesarean section (90.8%), especially in primigravida (78.9%). Vaginal delivery was more frequent among multiparous women. Maternal complications were mainly associated with vaginal delivery, including postpartum hemorrhage (4 cases), traumatic delivery (1 case), and cord prolapse (1 case). Neonatal outcomes showed that 25.3% required NICU admission, and one neonatal death (1.14%) was reported. Congenital anomalies were seen in 4.59% of cases. **Conclusions:** Caesarean section remains the preferred mode for breech presentation due to its association with fewer complications. However, under strict selection and experienced supervision, vaginal delivery may be a safe option in selected multiparous women at term. Thorough patient counseling and institutional preparedness are essential for optimizing outcomes.

**KEYWORDS :** Breech presentation, caesarean section, vaginal breech delivery, fetomaternal outcome, neonatal morbidity, maternal complications

## INTRODUCTION

Breech presentation, characterized by the fetus positioning with the buttocks or lower limbs leading, occurs in approximately 3–4% of all term pregnancies and presents considerable challenges for obstetric management. It is the most prevalent form of malpresentation and is linked to increased perinatal morbidity and mortality when compared to cephalic presentation. In recent years, breech presentation has emerged as a significant factor contributing to the rising rates of cesarean sections globally. [1]

Any modifications or advancements in the techniques for breech delivery should focus on enhancing perinatal outcomes while minimizing maternal morbidity and mortality. The fetus is often more adversely affected than the mother, making fetal outcomes a critical factor in evaluating the effectiveness of specific labor management methods for breech presentations. [2]

In recent decades, heightened concerns regarding perinatal safety have resulted in a substantial rise in cesarean section rates for breech presentations, with some medical centers reporting rates exceeding 90%. While cesarean delivery can mitigate certain neonatal risks, it introduces its own maternal risks and may have implications for subsequent pregnancies. [3,4]

Various risk factors may contribute to the occurrence of breech presentation, including multiparity, polyhydramnios, oligohydramnios, hydrocephaly, anencephaly, previous breech presentations, placenta previa, preterm gestation, uterine abnormalities, advanced maternal age, maternal use of anticonvulsants, multiple gestations, and fetal asphyxia. [5,6,7]

Breech presentation has been associated with birth-related injuries, perinatal mortality, and maternal complications. Perinatal asphyxia can occur as a result of breech positioning. Additionally, physical characteristics such as frontal bossing, prominent occiput, low-set ears, torticollis, and developmental dysplasia of the hip are more frequently observed in breech presentations. Beyond birth trauma, adverse outcomes are also linked to coexisting conditions such as preterm birth, intrauterine growth restriction, or congenital anomalies. [8,9]

This study aims to assess the current practices and outcomes associated with breech deliveries at a tertiary care facility.

## MATERIALS AND METHODS

## Study Design and Setting:

A retrospective study was conducted in the Department of Obstetrics

and Gynecology at MGM Medical College and Hospital, Aurangabad, over a 12-month period from January 2024 to December 2024.

**Inclusion Criteria:** singleton pregnancy with breech presentation .

**Exclusion Criteria:** multifetal pregnancy .

## Participants:

A total of 87 obstetric patients with singleton pregnancies and breech presentation admitted during the study period were included. Patients with multiple gestation were excluded.

## Data Collection:

Detailed information on maternal demographics, obstetric history, gestational age, type of breech presentation, and mode of delivery was collected. Maternal and neonatal outcomes were recorded, including complications during labor and delivery, NICU admissions, neonatal mortality, and congenital anomalies.

## Outcomes Assessed:

Primary outcomes included mode of delivery, maternal morbidity, neonatal morbidity, and perinatal mortality. Secondary outcomes included associations with maternal age, parity, gestational age, and presence of conditions such as oligohydramnios, placenta previa, or uterine anomalies.

## Ethical Consideration:

The study protocol was approved by the Institutional Ethics Committee. Informed consent was obtained from all participants.

## RESULTS

Table 1: Maternal Age Distribution

| AGE   | Distribution (n= 87) | Incidence (%) |
|-------|----------------------|---------------|
| <18   | 01                   | 1.14          |
| 18-25 | 54                   | 62            |
| 25-35 | 31                   | 35.6          |
| >35   | 01                   | 1.14          |

Out of 87 cases, the majority (62%) were aged 18–25 years, followed by 35.6% in the 25–35 age group. Only 1.14% were under 18 or above 35 years.

Table 2: Distribution Of Mode Of Delivery With Parity

| Parity       | Vaginal Delivery (n=8) | LSCS (n=79) | Incidence |
|--------------|------------------------|-------------|-----------|
| Incidence    | 9.2 %                  | 90.8%       |           |
| Primigravida | 3                      | 30          | 38%       |
| Multigravida | 5                      | 49          | 62%       |

- 38% of patients were primigravidae, and 62% were multigravidae.
- Overall, 90.8% of deliveries were by lower segment caesarean section (LSCS), while 9.2% were vaginal deliveries.
- Among primigravidae, 90.9% underwent LSCS, and 9.1% delivered vaginally.
- Among multigravidae, 90.7% underwent LSCS, and 9.3% delivered vaginally.

**Table 3: Distribution Of Mode Of Delivery With Gestational Age**

| Gestational Age | LSCS (N=79) | VAGINAL DELIVERY (N=08) |
|-----------------|-------------|-------------------------|
| Term            | 56          | 08                      |
| Preterm         | 23          | 00                      |

- Term gestation cases were 64, and preterm were 23.
- All preterm cases were delivered by LSCS.
- All vaginal deliveries occurred at term and were among multiparous women.

**Table 4- Maternal Complications**

| Complication                    | Primigravida (n=0) | Multigravida (n=6) |
|---------------------------------|--------------------|--------------------|
| Atonic Post-partum Hemorrhage   | 0                  | 4                  |
| Traumatic Postpartum Hemorrhage | 0                  | 1                  |

- Vaginal deliveries were associated with 6 maternal complications: postpartum hemorrhage (4), traumatic delivery (1).
- No significant complications were reported among those who delivered by LSCS.

**Table 5- Fetal Outcomes In Breech Deliveries**

| Outcome                     | Vaginal delivery | LSCS | Incidence |
|-----------------------------|------------------|------|-----------|
| With mother                 | 5                | 60   | 74.7 %    |
| NICU admission              | 2                | 19   | 25.3%     |
| Neonatal Mortality          | 1                | 0    | 1.14%     |
| Anomalies Detected in fetus | 1                | 3    | 4.59      |
| <b>Anomalies</b>            |                  |      |           |
| Right Lower Limb Deformity  | -                | 1    | 1.14%     |
| Hydrocephalus               | -                | 1    | 1.14%     |
| Birth injuries              | -                | 1    | 1.14%     |
| <b>Cord prolapse</b>        | 1                | 0    | 1.14%     |

- 74.7% neonates stayed with the mother post-delivery.
- 25.3% required NICU admission (2 from vaginal delivery, 19 from LSCS).
- One neonatal death occurred following vaginal delivery and one incidence of cord prolapse happened during vaginal delivery (1.14%).
- Four fetuses had congenital anomalies: right lower limb deformity, hydrocephalus, and birth injuries (total anomaly rate: 4.59%).

**Table 6 – Maternal Association With Breech Presentation**

|                             |    |       |
|-----------------------------|----|-------|
| Breech with oligohydramnios | 22 | 25.2% |
| Breech with placenta previa | 4  | 4.6%  |
| Uterine anomalies           | 4  | 4.6%  |

- 25.2% had associated oligohydramnios, suggesting oligohydramnios like association with breech presentation.
- 4.6% had placenta previa, suggesting abnormal placentation could be one of the reason for breech.
- 4.6% had uterine anomalies (e.g., bicornuate uterus, septate uterus)

## DISCUSSION

Breech presentation continues to present a clinical challenge, particularly regarding the safest and most effective mode of delivery. In our study, the incidence of breech presentation was highest among women aged 18–25 years (62%), aligning with other Indian studies where this age group constitutes the bulk of reproductive women.

The vast majority of cases (90.8%) in our cohort were delivered by caesarean section. This mirrors global trends following the Term Breech Trial, where planned caesarean delivery became the default approach due to its association with reduced neonatal morbidity and mortality. However, our findings also reinforce that with stringent selection criteria and skilled supervision, vaginal breech delivery can be a safe option for certain term multiparous women.

Our data also confirm that maternal complications—such as atonic postpartum hemorrhage and traumatic post-partum haemorrhage—were more common with vaginal breech births, whereas LSCS

deliveries had fewer maternal adverse outcomes.

Perinatal morbidity, as indicated by NICU admission, was seen in 25.3% of cases. One neonatal death occurred in a vaginal delivery, likely due to birth trauma. Fetal anomalies were identified in 4.59% of neonates, some of which were potentially associated with breech presentation itself. Cord prolapse was noted in one case, emphasizing the importance of careful monitoring, especially in footling or complete breech types.

These results are consistent with those reported in prior studies, where CS was more prevalent in primigravidae and associated with better neonatal outcomes. They also emphasize that vaginal breech delivery should not be dismissed entirely but offered selectively in well-equipped centers with experienced obstetricians.

As per the study conducted by Baves B in 2018, Out of 100 patients breech presentation was more common in booked patients and multigravida. In primi and multigravidae patients, caesarean delivery was more compared to assisted breech delivery. Perinatal outcome was good in majority of the patients in both extended and complete breech with an incidence of 94% and 88% respectively. perinatal outcome was good in caesarean section with 100% compared to assisted breech delivery 93%.

As per the study conducted by sonal M solanki, The prevalence of breech was found to be 3.85% among 2,592 total deliveries in them majority, 51% cases were in the age group of 21–25 years, with 53% being primigravida, 67% registered for antenatal care, most of the cases were delivered by caesarean section (93%) which were associated with PIH, oligohydramnios and PROM. Perinatal morbidity in form of IUGR, LBW, foetal distress was seen to be higher in babies delivered vaginally (57%) as compared to 18.27% in cases delivered by caesarean section from the rate of NICU admission.

## CONCLUSION

Our audit indicates that while caesarean section is the predominant and safer mode of delivery in breech presentation—especially in primigravidae and preterm pregnancies—a well-monitored trial of vaginal breech delivery may be considered in select term multiparous women with favorable clinical profiles.

To optimize fetomaternal outcomes:

- Each case should be evaluated individually,
- Institutional readiness and availability of skilled personnel are paramount,
- Counseling should be provided about risks and benefits of both modes of delivery.

Thus, although caesarean section significantly reduces certain perinatal risks, it is not universally applicable or risk-free. A balanced, evidence-based, and patient-centered approach remains essential in managing breech presentations.

## Limitations :

Single center . small sample size were soemof the limitations of the study.

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