

ORIGINAL ARTICLE

VAGINAL BREECH DELIVERY: STILL A SAFE OPTION

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Background: Elective caesarean section has replaced vaginal delivery for term breech fetuses due to fear of complications of vaginal breech delivery. This increasing rate of caesarean section worldwide is alarming. It has not only led to increase in adverse consequences in subsequent pregnancies and future fertility but also loss of skills for vaginal breech delivery. This study was conducted to determine the safety of vaginal breech birth in terms of maternal and neonatal complications. **Methods:** This cross sectional study was conducted at department of Obstetrics/Gynaecology, Ayub Medical College, Abbottabad from January 2004 to December 2011. One seventy-eight women having successful vaginal breech delivery of singleton term fetuses from 2004–2008 were selected. They were studied for neonatal complications like low Apgar score (AS) <7 at 5 min, birth trauma, admission to neonatal intensive care units and perinatal mortality. Maternal complications including any genital tract trauma and post-partum haemorrhage (PPH) were also noted. **Results:** There were 11243 deliveries during this period, including 674 breech presentations at term (incidence of breech 6%). Out of 178 successful vaginal breech deliveries, 8 (4.49%) neonates had AS <7 at 5 min, and 6 (3.37%) neonates needed NICU admission. There were no cases of birth trauma or perinatal morbidity. Maternal complications occurred in only 5 (2.8%) patients, 2 (1.1%) having perineal tears, 2 (1.12%) retained placenta and one (0.56%) case of post partum haemorrhage. **Conclusion:** Vaginal breech delivery can be safely undertaken without compromising maternal and neonatal outcome if strict criteria are met before and during labour.

Keywords: Vaginal breech delivery, foeto-maternal outcome, breech, delivery

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INTRODUCTION

About 3–4% of pregnant women reach term with a foetus in breech presentation. The optimum management of breech presentation at term remains a lively debating issue.¹ Historically for most of these women, the approach to delivery has been controversial. Previous cohort studies have shown in general that planned caesarean section (CS) is better than planned vaginal birth (VB) for the term breech fetus.²

The term breech trial (TBT) was designed to conclusively determine, if vaginal or caesarean section was the best mode of delivery for breech presentation. The TBT was a randomized multi-centre trial that included 2083 women from 121 centres in 26 countries. According to the result of this trial planned CS remained a better method of delivery for breech foetus and there were no difference in terms of maternal mortality or serious maternal mortality in both groups (CS Vs VB).³

This trial rapidly dictated a new standard of care for the management of breech deliveries around the world. However, the obvious implication of the recommendation is an increase in caesarean section rate. Considering that women in developing countries have a high aversion for CS, and in most part of the countries, the skills for CS may be lacking, assisted breech delivery may still be relevant.⁴ However the

results of TBT contribute to the evidence to inform decision making but should not dictate the most appropriate mode of delivery. Women who have had a baby by CS need and should have additional support postnatally. The potential consequences of CS for future fertility and subsequent pregnancies cannot be ignored.^{5,6}

These results should not be used to restrict women's choice both directly and indirectly, though they are likely to do so. In practice fewer obstetrician will continue to offer VB for a breech baby and in turn lack of experience will lead to a further erosion of obstetric skills.⁷

Trial of labour for women with term, singleton breech foetus an appropriate settings is still an option. As fewer women have the opportunity of a planned vaginal breech delivery, in a short time the skills for conducting vaginal breech delivery may be lost and planned CS for breech will then become a self fulfilling prophecy. It is important that these skills to assist women to birth a baby in the breech position are retained so that those women who choose vaginal birth and those who have a quicker labour with an undiagnosed breech baby can be cared for competently.^{4,7}

This study was conducted to observe the maternal and neonatal outcome in a carefully selected group of women for breech vaginal delivery so that

an appropriate management strategy could be mapped out without compromising foeto-maternal wellbeing. Limited data is available in Pakistan on outcome of vaginal breech delivery after the results of term breech trial (2000). The aim of this study was to describe experiences with careful trial of vaginal breech delivery at a tertiary care hospital in Pakistan.

MATERIAL AND METHODS

This cross sectional study was conducted from Jan 2004 to Dec 2011 at Obstetrics and Gynaecology department, unit C, of Ayub Medical College, Abbottabad. A total of 178 women having successful vaginal breech delivery at or beyond 37 weeks gestation were included in this study. Women with foetuses having major malformations and intrauterine death were excluded. Maternal and neonatal data were recorded on a *pro forma*. Informed consent was taken after explaining the foeto-maternal risks and benefits of trial of labour vs. elective CS. The guidelines for vaginal breech delivery at term were a clinically adequate pelvis, frank or complete breech having estimated foetal weight of <3.8 kg with flexed head and feet above the level of buttocks. Caesarean section was recommended if cord presentation, hyper extended neck, foetal growth restriction or any contraindication to vaginal delivery; lack of presence of a resident trained in vaginal breech delivery was another reason for caesarean section.

Fetal heart rate (FHR) monitoring during first stage of labour was done by intermittent auscultation every 15–30 minutes. During second stage, it was done, at least every 5 min after a contraction. Delivery was conducted in lithotomy position, in operation theatre. An anaesthetist on standby and paediatric resident for neonatal resuscitation were also present at the time of delivery. Nuchal arms were delivered by Løvset manoeuvre. The delivery of foetal head was either spontaneous or by Mauriceau–Smellie–Veit manoeuvre, or with assistance of forceps.

Neonatal outcome data included weight, sex, Apgar score at 1 and 5 min and admission to neonatal intensive care unit (NICU). Neonatal morbidity was considered to be present in cases of fractures, haematoma, paresis, paralysis, trauma to viscera, Apgar score (AS) <7 or trapped foetal head. Mortality included death of the neonate during first week of life.

Maternal demographic data (age, parity, period of gestation) and complications like genital tract trauma were also recorded. Statistical analysis was performed using SPSS-16.

RESULTS

A total of 11243 deliveries occurred in our unit during the study period (2004–2011). Out of these, 674 women delivered term singleton infants presenting by breech showing an incidence of 6% for breech at term. Of the

total breech deliveries, 451 (67%) delivered by CS, 59 (13%) by planned CS before the onset of labour and 392 (83%) by emergency CS during labour. Out of 223 (33%) women who had successful vaginal delivery, 178 women were included in the study after exclusion of patients with intrauterine foetal death and lethal congenital malformations. The rate of CS for breech presentation was 67%. Maternal and neonatal demographic data is shown in Table-1 & 2 respectively.

As far as neonatal outcome is concerned there was no neonatal or intra-partum death. Out of 178 neonates, 8 (4.49%) were born with AS <7 at 5 minutes and 6 (3.37%) neonates were shifted to neonatal intensive care unit (NICU). All these neonates were healthy and discharged within 24 hours except one who developed hypoxic ischemic encephalopathy grade-I and discharged on 6th day in stable condition. There was no case of head entrapment and none of the neonates had external trauma.

Regarding maternal outcome, complications occurred in 5 (2.8%) patients, 2 (1.12%) parturient had perineal tears (first and second degree), 2 (1.12%) had retained placenta which was removed manually and one patient (0.56%) had post partum haemorrhage due to cervical tear. No serious maternal complication was noted.

Table-1: Maternal Demographic Data (n=178)

| | | |
|--------------|-----------------|------------------------|
| Maternal age | Mean±SD (Range) | 26.39±5.02 (17–42) yrs |
| Weight | Mean±SD (Range) | 65±0.9 (45–92) kg |
| Height | Mean±SD (Range) | 156±10.6 (122–170) cm |
| Parity PG | 72 | 40.44% |
| MG | 106 | 59.55% |

Table-2: Neonatal demographic Data (n=178)

| | | |
|--------|-----------------|--------------------|
| Sex | Male | 108 |
| | Female | 70 |
| Weight | Mean±SD (Range) | 2.8±0.6 (1.8–4) kg |

Table-3: Neonatal & Maternal Complications (n=178)

| Complications | No. of cases | % age |
|----------------------|--------------|-------|
| Early neonatal death | Nil | 0% |
| Low Apgar Score (<7) | 8 | 4.49% |
| Admission to NICU | 6 | 3.37% |
| Head Entrapment | Nil | 0% |
| Perineal tears | 2 | 1.12% |
| Cervical tear | 1 | 0.56% |
| Retained Placenta | 2 | 1.12% |

DISCUSSION

The frequency of singleton term breech presentation in this study is 6%. It is higher than 3–4%, which was quoted as global figures.⁸ It was due to the fact that our tertiary care hospital mostly received the abnormal obstetric cases being referred from peripheral hospitals. There is increase tendency of attempting normal vaginal deliveries at home or basic health units in this part of country especially due to poor access to hospital.

The caesarean section rate among women with breech presentation at term from this study was 67%, which compares well with 68% and 65%, reported in different studies.⁹ This increase in caesarean rate was after the results of multicentre term breech trial (TBT) 2000, which recommends planned caesarean section as the route of choice for better neonatal outcome at term.¹⁰

The incidence of low Apgar score (AS) at 5 min (defined as a score of less than 7) was 4.49% in our study. This is significantly lower than 8% as reported in national studies and 42% reported in Nigeria in 2010.^{11,12} However it is comparable with the results of TBT 2000.¹ According to the results of TBT, perinatal mortality (PNM) was 1.9% and serious neonatal morbidity was 4.4%. In our study, no neonatal mortality was observed so was in the study conducted by Goffinet *et al* (2006).⁹ This improved outcome is attributed to our strict selection criteria and management guidelines, which aims to minimize risk. Similarly, 3.37% neonates needed admission in neonatal intensive care unit (NICU) during the study period. This is better than 61% and 13% NICU admissions reported in other studies.¹¹ There was no case of significant birth trauma, and this compares well with studies by Goffinet *et al* and Alarab *et al* in 2006 and 2004 respectively, who strongly recommend vaginal delivery for term breech foetuses.^{9,12} Maternal complications occurred only in 2.8% of patients which is significantly lower than 11.5% reported in a study and compares well with 3% reported in national studies.^{10,11}

It was surprising that during the study period, 85% of caesarean sections done for term breech presentation were emergency and only 15% patients under went elective (planned) caesarean section. This finding contradicts the facts reported in international studies and originally published articles in local Pakistani journals. Hofmeyr GJ *et al* and Krebs *et al* showed emergency CS done only for 41% and 34% of term breech presentation while majority i.e. 85% and 66% had elective CS. Similarly many local studies also showed that majority of CS done for breech presentation are planned CS.¹³⁻¹⁵ This contradictory finding in our study was because majority of patients we receive in this tertiary care hospital are referred after a failed trial of labour or neglected labour. Most of the patients are from far hilly regions where lack of awareness and poor access to hospital make them reach only when it is an emergency. This results in increase number of patients having emergency caesarean section for a condition which can be better handled electively, thus exposing these patients to four times increased risks of

complications. This further adds to the existing high maternal morbidity and mortality. Encouraging breech vaginal delivery in carefully selected patients can definitely reduce maternal morbidity and mortality in our setup where majority of CS for breech are done as emergency.

CONCLUSION

Vaginal delivery of term breech foetus is a safe option in a carefully selected group of women. Pre-delivery assessment, vigilant labour monitoring and delivery by trained doctors can minimize poor foeto-maternal outcome. This will not only help retain skills of vaginal breech delivery but also reduce poor foeto-maternal outcome in the events of an unexpected breech delivery.

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