

Research Article

Outcome of single breech term deliveries at the Federal Medical Centre, Owerri, South Eastern Nigeria: a five year review

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ABSTRACT

Background: The best mode of delivery of breech presentation for optimum neonatal outcome has been a subject of controversy over the years. Aim of current study was to determine the pattern of distribution, incidence, mode of delivery and outcome of singleton breech presentations at term among parturients at this centre.

Methods: This was a retrospective study of singleton breech term delivery at the federal medical centre, Owerri between January 1, 2007 and December 31, 2011. Singleton breech term deliveries were identified from the labor ward register and the hospital numbers extracted to retrieve the case notes from the medical records department of the hospital. Some data were collected and analysed.

Results: There were a total of 9624 deliveries during the study period, out of which 328 (3.4%) were singleton breech presentation at term. Term singleton breech was commoner in multiparous 200 (61%) than in primiparous 128 (39%) women. Extended (Frank) breech was the commonest type of breech presentation (60.4%) followed by flexed (complete) breech (36.0%) and footling breech (3.6%) was the least common. Assisted vaginal breech delivery was conducted in 66.2% of cases while 27.4% were delivered by emergency caesarean section and 6.4% of cases were delivered through elective caesarean section. There were one maternal and 24 perinatal death. Twenty one (87.5%) of perinatal deaths those occurred in unbooked mothers.

Conclusion: Although assisted vaginal breech delivery for singleton breech term delivery was commonly performed in our centre, elective caesarean delivery gives the better neonatal outcome for fetuses presenting breech.

Keywords: Breech presentation, Parturients, Owerri

INTRODUCTION

Breech presentation is defined as the polar alignment of the foetus in which the fetal buttocks or feet present at the maternal pelvic inlet.¹ Three types of breech presentations are recognized. Frank (or extended), incomplete (or footling), and complete (or flexed) breech.^{2,3} The incidence varies with the gestational age and is between 14% and 20% at 28 weeks gestation and 3% to 4% at term.^{2,3}

The management of foetus presenting by the breech has been an area of great controversy and changing practice in obstetrics because of the high perinatal morbidity and mortality associated with it.^{2,4}

The etiology of breech presentation is not clear, but several factors are associated with increased risk of failure of spontaneous cephalic version such as prematurity, intrauterine growth restriction, fetal abnormality and multiple gestation.^{2,5,6} Other associated factors include uterine abnormality, pelvic mass, maternal drug and alcohol abuse, anticonvulsant therapy, placenta

praevia, oligo- or polyhydramnios, and previous breech presentation.^{2,6,7}

However, these etiologic risk factors are identifiable only in 7 - 15% of breech presentations.^{6,7} In view of the above, it is now thought that the majority of breech presentations have genetic predisposition without any anatomical cause.^{1,8,9} Even after the term breech trial which gave preference for planned caesarean delivery over planned vaginal breech delivery in breech presentation, controversy still rages concerning the best mode of breech delivery especially in the tropics.^{2,10,11}

In most developing countries, many women with breech presentation present in labor without any prior form of antenatal care and so are not diagnosed before the onset of labor. Therefore, the obstetrician in this region is often faced with the challenge of not having significant time to plan for the best way to deliver the breech as most of them present in advanced labor for the first time.^{11,12}

This and many other factors are very crucial in the management of breech presentation in the developing countries and may in fact influence the reproductive outcome in these regions than in the developed world.^{11,13,14} Another great concern about the result of the term breech trial is the astronomical rise in the caesarean section rate. It is reported that in the immediate years following the result of the trial, the use of caesarean section for breech delivery contributed significantly to the overall rise in caesarean section rate.^{15,16} In view of this, external cephalic version (ECV) which has been demonstrated to be associated with a significant reduction in the risk of caesarean section without any increased risk to the baby has been advocated.^{2,17-19} It is recommended that all women with an uncomplicated breech pregnancy at term (37 - 42 weeks) should be offered ECV.^{2,20}

This study is a retrospective analysis of the outcome of singleton breech term deliveries at the federal medical centre, Owerri, over a five year period.

METHODS

This was a retrospective study of singleton breech term delivery at federal medical centre, Owerri between January 1, 2007 and December 31, 2011. Singleton term breech deliveries (both vaginal and caesarean) were identified from the labor ward register and the hospital numbers extracted to retrieve the case notes from the medical records department of the hospital. Necessary information such as the maternal age, parity, booking status, mode of delivery, maternal outcome, fetal outcome, APGAR scores and admissions to the special baby care unit (SCBU) were retrieved from the case notes and analysed. Also details of the perinatal outcome of the neonates admitted to the SCBU were also obtained and analysed. Information about external cephalic version (ECV) in the study was excluded from the study because those who had successful or failed version were not

properly documented on the folder. Descriptive statistics was done with SPSS software for windows version 17.0 (SPSS Inc., Chicago, IL).

RESULTS

There were a total of 9624 deliveries during the study period of which 328 (3.4%) were singleton breech presentations at term. The maternal age ranged between 16 and 45 years with a mean age of 27.3 ± 10.3 years. Singleton term breech presentations were more common in multiparous 200 (61%) than in primiparous 128 (39%) women. Singleton term breech was also found to be more common in booked 186 (56.7%) than in unbooked 142 (43.3%) parturients. These were shown in Table 1. Table 2 revealed that extended (frank) breech 198 (60.4%) was the commonest type of breech presentation followed by flexed (complete) breech 118 (36.0%) while footling breech 12 (3.6%) was the least common type.

Table 1: Socio-demographic characteristics of mothers with singleton breech presentations.

Variable	Number of patients (%)
Age (years)	
≤19	5 (1.5)
20 - 24	69 (21.0)
25 - 29	162 (49.4)
30 - 34	81 (24.7)
≥35	11 (3.4)
Total	328 (100)
Parity	
Primigravida	128 (39.0)
Multipara	200 (61.0)
Total	328 (100)
Booking status	
Booked	186 (56.7)
Unbooked	142 (43.3)
Total	328 (100)

Table 1 shows singleton breech presentation at term to be more common in multigravidas and majority of the patients are between the ages of 25 and 29 years.

Booked patients had more singleton term breech presentation than unbooked patients during the study period.

Table 2: Distribution of various types of breech presentations.

Type of breech	Number of fetuses (%)
Complete (Flexed)	118 (36.0)
Frank (Extended)	198 (60.0)
Footling	12 (3.6)
Total	328 (100)

Extended (frank) breech was found to be the commonest form of singleton term breech presentation followed by complete (flexed) breech.

Table 3 shows distribution of type of breech by parity of mothers which showed that most of the extended breech occurred in the primigravidae 102 (51.5%), while flexed and footling breech occurred most among grandmultiparas 56 (47.5%) and multiparas 7 (58.3%) respectively.

Table 3: Distribution of type of breech by parity of mothers.

Parity	Complete breech	Frank breech	Footling
Para (0)	25 (21.2%)	102 (51.5%)	1 (8.3%)
Para (1 - 4)	37 (31.3%)	20 (10.1%)	7 (58.3%)
Para (5 & above)	56 (47.5%)	76 (38.4%)	4 (33.4%)
Total	118 (100%)	198 (100%)	12 (100%)

Extended (Frank) breech occurred more in primigravida while complete breech occurred more in grandmultiparas. Footling breech was found commonest in multipara.

Table 4 showed that most of the singleton term breech, 217(66.2%), were delivered through assisted vaginal breech delivery, while 90 (27.4%) cases were delivered by emergency caesarean section and 21 (6.4%) had elective caesarean section.

Table 4: Mode of delivery of infants with breech presentation at term.

Type of breech	Vaginal delivery	Caesarean section		Total
		ELCS	EMCS	
Complete breech	91	6	21	118
Frank breech	126	7	65	198
Footling breech	0	8	4	12
Total	217	21	90	328

Delivery via the vaginal route was more common than caesarean delivery in singleton term breech.

APGAR score at 1 minute revealed that about 1/3 (29.9%) of the neonates had good APGAR scores while 38 (11.6%) of them had severe asphyxia at the first minute. Mild to moderate asphyxia were quite high in the first minute 185 (56.4%). At 5 minutes, 13 (4.0%) were still severely asphyxiated while 247 (75.3%) of them were not asphyxiated at 5 minutes. Fifty-six (17.1%) still showed some signs of mild to moderate asphyxia at 5 minutes. This was shown in Table 5.

The majority of the perinatal deaths that occurred, 21 (87.5%) were from babies of unbooked mothers while 3 (12.5%) occurred in babies of booked mothers. Table 6 showed that obvious birth injuries were commonest in infants weighing more than 3.5kg followed by those weighing between 2.5 to 3.5kg who was delivered by

assisted vaginal breech delivery. No obvious birth injuries were noted for those babies weighing less than 2.5kg.

Table 5: APGAR scores at 1 minute including stillbirths.

Score	Number of patients (%)
1 minute	
≥7	98 (29.9)
5 - 6	125 (38.1)
4	60 (18.3)
≤3	38 (11.6)
Stillbirth (0)	7 (2.1)
Total	328 (100)
5 minutes	
≥7	247 (75.3)
5 - 6	32 (9.8)
4	24 (7.3)
≤3	13 (4.0)
Stillbirth (0)	12 (3.6)
Total	328 (100)

More than ¾ of the neonates had good 5th minute APGAR scores of greater than or equal to 7 (75.3%). Perinatal death increased from 2.1% to 3.6% in the 5th minute while those who were moderate to severely asphyxiated decreased significantly.

Table 6: Neonatal birth weight and birth injuries.

Birth weight (kg)	Birth injuries (%)
<2.5	0 (0.0)
2.5 - 3.5	13 (31.7)
≥3.5	28 (68.3)
Total	41 (100.0)

There was only one death was recorded in mothers presenting with singleton term breech during the study period. This occurred in an unbooked mother who had uterine rupture while laboring in a maternity home before presenting to our centre. Second degree perinatal tear was the commonest maternal complications observed among mothers with singleton breech at term 186 (56.7%), followed by post-partum haemorrhage. There were 3 cases each of cervical laceration and ruptured uterus while wound infection complicated 2 cases of caesarean delivery.

DISCUSSION

The 3.4% incidence of term breech presentation in this study is within the range of 3 to 4% that is commonly quoted.^{2,6,21} Therefore, it seems that the incidence of breech presentation remains fairly constant over the years and from region to region.

There is preponderance of breech delivery among multiparous women when compared to the primiparous group in this study. This is in consonance with the demographic pattern of breech presentation in the developing countries and most parts of the world.^{1,6,12,32} It is thought that high parity predisposes to fetal breech presentation due to laxity of the abdominal muscles⁶.

Extended (or frank) breech occurred most and constituted 60.4% of the breech deliveries. This was followed by flexed (or complete) breech, which constituted 36.0% of the cases while footling breech has the least occurrence. This finding is in keeping with a study by Olusola et al.¹² which found similar distribution although it is contrary to the general quoted distribution where flexed breech has the least frequency.^{2,3}

Extended (or frank) breech is known to be commoner among primigravidae while flexed (or complete) breech occurs more commonly in multigravidae.^{6,23} This is similar to what was found in this study where 51.5% of extended breech and 78.8% of flexed breech were found among primiparous and multiparous women respectively.

The caesarean section rate of 33.8% (6.4%) and 27.4% for planned or elective caesarean section and emergency caesarean section respectively is comparable to the rate found in a study by Olusola et al. at Ile-Ife where a caesarean section rate of 24.2% was found.¹² However, it is contrary to the studies by Adeyemi et al. at Oshogbo and Rietberg et al. in the Netherlands²⁴ where caesarean rates of 78% and 80% respectively were found. Eighty-one percent of the caesarean section in this study was emergency as a result of unbooked parturients or failed planned vaginal delivery. The very high rate of assisted vaginal delivery in this study may not be unconnected to women in this region being averse to caesarean section and most unbooked and even booked patients with breech presenting foetus coming usually in advance labor preferring to deliver vaginally.

Nearly all neonates delivered through planned elective caesarean delivery had good Apgar scores at the first and fifth minutes. Most of the infants who had severe asphyxia were from unbooked mothers who had unplanned vaginal delivery or emergency caesarean section.

The perinatal mortality rate of 7.3% for breech presentation seen in this study is higher than the rates for planned vaginal breech delivery in the term breech trial and that in a study by Herbst et al. where perinatal mortality rates of 5% and 0.63% respectively were found.^{25,26} This could be explained by the fact that a significant number of our pregnant women do not have access to quality antenatal care as more than 87% percent of the perinatal deaths occurred among unbooked mothers. These set of women had no form of prior planning for their delivery with most of them presenting in advanced labor after trying unsuccessfully to deliver

vaginally in a maternity home. Again, the significance of antenatal care becomes even more obvious when it is considered that the only maternal mortality recorded in this study occurred in an unbooked mother.

In a later sub-analysis of the results of the term breech trial it was acknowledged that the benefits of delivery of breech by planned caesarean section became even more significant in countries with a low perinatal mortality rate, but were not as significant in countries with higher perinatal mortality rate.²⁷ In a more recent study by Goffinet et al. who conducted an observational prospective study and found that with planned vaginal breech delivery, the rate of perinatal death was far less than the 5% in the term breech trial and not significantly different from the planned caesarean section group. They concluded that, in the units where planned vaginal delivery is a common practice and when strict criteria are met before and during labor, planned vaginal delivery of singleton fetuses in breech presentation at term remains a safe option that can be offered to women.²⁸

In conclusion, the findings in this study showed that planned elective caesarean section for term singleton breech fetus gives a better neonatal outcome, at least at the short term, in agreement with the results of the term breech trial. However, since significant numbers of women do not have antenatal care to plan their delivery and majority of those who attend antenatal care are averse to caesarean section, training and re-training of personnel in the art of vaginal breech delivery should be encouraged so that in well selected cases it can safely be offered with minimal complications.

Also, offering external cephalic version in uncomplicated breech pregnancy at term and the provision and utilization of good quality antenatal care will go a long way in reducing the vaginal breech delivery and caesarean section rate, and the incidence of unbooked emergencies and its attendant poor perinatal and maternal outcome.

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