

Outcome of Term Singleton Breech Deliveries at a University Teaching Hospital in Lagos, Nigeria

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Summary

Objectives: To determine the incidence, review the management as well as the maternal and perinatal outcome of singleton breech presentation at term at the Lagos University Teaching Hospital (LUTH).

Method: A review of the 108 singleton term breech deliveries that took place at the Lagos University Teaching Hospital over 30 months from 1st January 2005 to 30th June 2007.

Results: The incidence of singleton term breech delivery was 3.4% and eighty seven per cent of the delivery was by caesarean section. Babies delivered by caesarean section were more likely to have first and fifth minute Apgar Scores greater than 7 compared to those delivered vaginally ($p < 0.001$). The perinatal mortality rate was more than four times higher in singleton term breech deliveries when compared to singleton term cephalic deliveries. The mean estimated blood loss following caesarean delivery was 775.5 ± 441.6 ml while that following assisted breech delivery was 253.6 ± 217.9 ml and this was statistically significant ($p < 0.001$). The mean hospital stay of mothers following caesarean birth was 6.6 ± 1.8 days while it was 3.1 ± 1.5 days for those that had assisted breech delivery. This was also statistically significant ($p < 0.001$). However all the six women with puerperal complications occurred in women that had caesarean section.

Conclusion: Babies delivered by caesarean section had better perinatal outcome compared with assisted vaginal breech delivery. Maternal morbidity occurring in the caesarean section group was not fatal.

Keywords: foeto-maternal outcome, term singleton breech, perinatal mortality.

The management of breech presentation still remains a highly contentious issue even in contemporary times. This is as a result of adverse maternal and fetal outcome that accompany this fetal presentation.¹ The high perinatal morbidity and mortality has been attributed to prematurity, birth asphyxia, birth trauma and congenital anomalies.^{1,2} The incidence of breech presentation decreases with advancing gestational age, from 20% at 28 weeks to about 3-4% at term.^{3,4}

An incidence of 1.9% was reported in a hospital-based study in Jos, Nigeria where the perinatal mortality rate of the singleton breech at term was found to be six times higher than singleton cephalic presentation at term.⁵ Several management approaches have been recommended including planned vaginal breech delivery in selected cases, elective caesarean section and external cephalic version at term.^{6,7} These modalities were however being frowned at in some quarters as personal experiences and

obstetrician bias had been noted in patient selection for these various modalities of management.^{8,9}

A large multicentre controlled study showed that planned caesarean section is better than planned vaginal birth for the term fetus with breech presentation, it also showed that serious maternal complications were similar in both groups.¹⁰ Recently, a study done in Calabar, Nigeria showed that the perinatal mortality rate following caesarean delivery for breech presentation was much lower than that following vaginal breech delivery. They also had a significantly better perinatal outcome following caesarean delivery when compared with vaginal breech delivery.¹¹

Objectives: To determine the incidence, review the management as well as the maternal and perinatal outcome of singleton breech presentation at term at the Lagos University Teaching Hospital (LUTH).

Materials and Methods

The records of the 108 singleton term breech deliveries at the Lagos University Teaching Hospital (LUTH) from 1st January 2005 to 30th June 2007 were analysed. The characteristics of the woman such as age, parity, booking status, the management as well as the perinatal and maternal outcome were noted.

The diagnosis of breech presentation was made by palpation and confirmed by ultrasound. Ultrasound was also used to exclude congenital anomalies, placenta praevia and for fetal weight estimation. Pelvimetry, whether clinical and/or radiological were done at 36 weeks in those being considered for vaginal delivery. Elective caesarean section was offered to breech with previous caesarean section, footling breech, placenta praevia, as part of the programme on prevention of mother to child transmission of the human immunodeficiency virus and macrosomic breech. The decision for caesarean section or vaginal delivery was made after considering the obstetric history, taking cognisance of individual risk factors, ultrasound reports, clinical examination as well as patient's counseling. In planned vaginal delivery, the most senior and most experienced obstetrician usually takes the delivery. Neonatologists were also present at delivery. Postmortem was not performed on the dead babies as parents refused to give their consent as a result of emotional trauma and as such causes of death were classified clinically. Statistical analysis was performed using Epi-Info 6.04 version, categorical variables were compared with chi-square test and Fisher exact test as appropriate while continuous variables were compared using t-test. A p value of < 0.01 was considered significant.

Results

There were 108 breech deliveries at term amongst 3183 deliveries during the study period giving an incidence of 3.4%. The mean age was 31.3 ± 4.4 years (range 20–43 years) and the mean parity was 1.3 ± 1.2 (range 0–6). 101 (93.5%) were booked patients while 7 (6.5%) were

unbooked. The mean birth weight was 3.2 ± 0.6 kg (range 1.8–5.6 kg). 56 (51.9%) of the babies delivered were female while 52 (48.1%) were males.

94 women delivered by caesarean section giving an incidence of 87%. 41 (43.6%) were done as elective cases while 53 (56.4%) were done as emergency caesarean sections. The main indications for the caesarean sections were footling breech 17 (18.1%), breech presentation with one previous caesarean section 16 (17.0%) and primigravida with breech presentation 14 (14.9%). Intrauterine growth restriction and previous ruptured uterus were the least common indications and each accounted for 1 (1.1%) as shown in table i. Table ii however shows the apgar scores in relation to the mode of delivery of the babies. The mean estimated blood loss following caesarean section was 775.5 ± 441.6 ml (range 350–3000 ml) while the mean estimated blood loss following assisted breech delivery was 253.6 ± 217.9 ml (range 100–750 ml). This was statistically significant (p < 0.001).

Six (6.4%) of the 94 women that had caesarean delivery had complications that ranged from delayed wound healing (2), puerperal pyrexia (3) and wound infection (1). None of the women who had assisted breech delivery developed complications. The mean hospital stay of mothers following caesarean birth was 6.6 ± 1.8 days (range 5–18 days), while that following vaginal breech delivery was 3.1 ± 1.5 days (range 2–8 days). This was also statistically significant (p < 0.001).

There were no maternal deaths. Seven (77.8%) babies of the 9 that had planned vaginal delivery had apgar scores of 7 and above at one minute of life while one (20%) of the 5 babies whose vaginal deliveries was unplanned had apgar scores of 7 and above at the first minute of life. Also 9 (100%) and 3 (60%) had Apgar scores of 7 and above respectively at the fifth minute of life. These were statistically significant (p < 0.005). Thirty two (78.0%)

Table i: Indications for Caesarean Section in Breech Presentation

Indication	Frequency	Percentage
Footling breech	17	18.1
One previous caesarean section	16	17.0
Primigravida with breech presentation	14	14.9
Two or more previous caesarean section	11	11.7
PMTCT	9	9.6
Foetal macrosomia	7	7.4
Foetal distress	4	4.3
Bad obstetric history	3	3.2
Placenta praevia	3	3.2
Eclampsia	2	2.1
Fibroids	2	2.1
Undiagnosed breech in labour	2	2.1
Unstable lie	2	2.1
Previous uterine rupture	1	1.1
Intrauterine growth restriction	1	1.1
Total	94	100.0

PMTCT: Prevention of mother to child transmission of human immunodeficiency virus.

of the 41 babies delivered by elective caesarean section had Apgar scores of 7 and above at the first minute of life as compared to thirty two (60.4%) of the 53 babies delivered by emergency caesarean section who had Apgar scores of 7 and above at the first minute of life. At the fifth minute of life, 41 (100%) of babies delivered by elective caesarean section had apgar scores of 7 and above while 50 (94.3%) of those delivered by emergency caesarean section had Apgar scores of 7 and above. There was however higher proportion of asphyxiated babies in the first and fifth minutes of life in emergency as compared to elective caesarean deliveries which was statistically significant ($p < 0.001$) as depicted in table iii.

There were 4 perinatal deaths in the 108 singleton breech deliveries and they all occurred in the booked patients. Thus the perinatal mortality rate of 37/1000 births. There were 20 perinatal deaths in 2,458 singleton term

cephalic deliveries from 1st January 2005 to 30th June 2007, the period of the study. This gave a perinatal mortality rate of 8.1/1000 births. Thus the perinatal mortality rate was more than 4 times higher in singleton term breech deliveries when compared with singleton term cephalic deliveries. However, three of the perinatal deaths occurred in the babies delivered by caesarean section. Clinical causes of deaths amongst this group were hydrocephalus with multiple congenital anomalies, neonatal sepsis and intrauterine growth restriction. The mother of the baby with congenital anomalies decided to continue with the pregnancy despite adequate antenatal counseling. The only perinatal death following vaginal breech delivery was as a result of severe birth asphyxia. The mother absconded from antenatal clinic only to present in labour. She delivered while being prepared for caesarean section. The baby was a footling breech and weighed 4.4 kg.

Table ii: Apgar Scores by Mode of Delivery

At first minute of life	1	2	3	4	5	6	7	8	9	10
Caesarean section (CS)	1	1	5	5	5	11	14	22	28	2
Assisted breech delivery (ABD)	0	0	1	0	1	4	1	5	2	0
$P < 0.001$										
At fifth minute of life	5	6	7	8	9	10				
Caesarean section (CS)	1	2	1	9	21	60				
Assisted breech delivery (ABD)	1	1	0	1	5	6				
$P < 0.001$										

Table iii: Apgar Scores: Elective Versus Emergency Caesarean Section

At first minute of life	1	2	3	4	5	6	7	8	9	10
Elective	0	1	0	2	1	5	6	11	13	2
Emergency	1	0	5	3	4	8	8	9	15	0
$P < 0.001$										
At fifth minute of life	5	6	7	8	9	10				
Elective	0	0	1	2	9	29				
Emergency	1	2	0	7	12	31				
$P < 0.001$										

Discussion

The incidence of singleton breech delivery at term in this study was 3.4%. This is higher than incidences of 1.4%¹¹, 1.9%⁵ and 2.4%¹ reported in other parts of the country. The mean maternal age in this study of 31.3 ± 4.4 years was similar to 28.5 ± 6 years⁵ reported in a similar study done in another part of Nigeria.

The caesarean section rate of 87% following breech presentation in this study is much higher than 37.1%¹¹ and 41%⁵ quoted in similar studies, thus suggestive of less aversion to caesarean delivery in Lagos. The high caesarean section rate also buttresses the importance of this procedure in the management of breech presentation even in our environment. This study reveals that the perinatal mortality associated with breech presentation may not always be significantly reduced with caesarean section in some cases.

This is evidenced in this study as three of the four perinatal deaths occurred in babies delivered by caesarean section. Footling breech presentation was the commonest indication for caesarean section; this was similar to the Jos study.⁵ There was a higher maternal morbidity in mothers who were delivered by caesarean section compared with the vaginal breech delivery group; this was similar to another study.⁵ Randomized controlled trials comparing planned caesarean section and vaginal breech delivery have suggested a worse outcome for the mother and a better outcome for the baby if caesarean section was done.^{12,13} However, a large multicentre study did not show any difference in terms of maternal mortality and serious morbidity between both groups.¹⁰ This study revealed that women who had caesarean section had a longer hospital stay compared with vaginal breech delivery group, which was statistically significant ($p < 0.001$). Also

those who had caesarean section had more blood loss than those that had vaginal delivery, which was also statistically significant ($p < 0.001$).

The perinatal mortality rate was higher in babies with breech presentation when compared to babies with cephalic presentation as in other studies.^{5,14} Also, the fact that congenital anomaly contributed to the high perinatal mortality in breech presentation was also noted in this study as it accounted for one of such deaths. The babies delivered by caesarean section had higher apgar scores of seven and above at the first and fifth minute of life compared to the vaginal breech delivery group which was statistically significant ($p < 0.001$). Similarly the apgar scores were better in the planned vaginal breech delivery group when compared with those who had unplanned vaginal breech delivery group, also the elective caesarean section group as compared to the emergency group.

Conclusion

It is evident that babies delivered by caesarean section had better perinatal outcome. Though maternal morbidity occurred in women delivered by caesarean section, they were not serious. This study also shows that with careful patient selection, planned vaginal delivery can be offered to some women with breech presentation. This has important implication for our setting as patient may benefit from this practice. This is because it avoids a caesarean scar and as there is no guarantee that the woman will attend an antenatal clinic in subsequent pregnancies. Moreover hospital confinement cannot always be ensured with a resultant high risk of uterine rupture if she attempts home delivery with caesarean section scar. Also, while poor outcome may be linked to mode of delivery, adequate neonatal resuscitation will go a long way in improving the outcome of breech deliveries.

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