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Research article

Caesarean versus Vaginal Delivery for Term Breech Presentation: A Comparative Analysis

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ABSTRACT: Delivery of fetuses at term in breech presentation has been a subject of debate in obstetrics. Reviewing the outcome following vaginal and caesarean deliveries will influence policies on the best route of delivery. To compare the neonatal and maternal outcomes between vaginal and caesarean births for fetuses presenting breech at term, a retrospective and comparative analysis of 78 singleton term breech deliveries in Nnamdi Azikiwe University Teaching Hospital, Nnewi over a 5-year period was done. Low 5-minute Apgar score, admission to neonatal intensive care unit, neonatal mortality and maternal morbidity were compared between vaginal deliveries and caesarean births. Assisted vaginal breech delivery was associated with significantly low Apgar score (score < 7) at 5-minutes (X^2=8.19; OR =8.80, P=0.004), while mothers who were delivered through caesarean section had significantly, more morbidity (X^2=3.14, OR=0.29, P= 0.04) compared to those who had vaginal delivery. There was no significant difference between the two groups in terms of neonatal intensive care unit(NICU) admission rate(X^2=2.84, OR=2.56, P= 0.09) or neonatal mortality (X^2=0.11, OR=1.60, P=0.38). Although assisted breech delivery was associated with more incidence of low Apgar score at 5-minutes, there was no significant difference in either the neonatal mortality rate or NICU admission rate. Assisted vaginal breech delivery in well selected patients is still relevant to our practice, despite the findings from the Term Breech trial.

Key Words; *Breech Presentation, Term, Delivery*

INTRODUCTION

Delivery of fetuses at term in breech presentation has been a subject of controversy for decades. Several studies have reported no difference in perinatal outcomes following vaginal or abdominal delivery (Kumari and Grundsell, 2004; Alarab et al., 2004; Goffinet et al., 2006; Doyle et al., 2005) while others have recommended elective caesarean section (CS) (Herbst and Thorngreen-Jerneck, 2001; Golfier et al., 2001; Hofmeyr and Hannah, 2003). The debate seemed to have come to an end with the results of a large multicenter study "Term Breech Trial" (Hannah et al., 2000). The study found that the overall risk of perinatal death for the fetus at term in frank or complete breech presentation was reduced by 75% with a planned CS (risk ratio [RR], 0.23; 95% confidence interval [CI], 0.07–0.8). The result led to the recommendation that a singleton fetus at term in breech presentation should be delivered by planned caesarean section (RCOG, 2001; ACOG, 2001).

However, the obvious implication of the recommendation is an increase in caesarean section rate. Considering that Nigerian women have a high aversion for caesarean section (Aziken et al., 2000; Ezechi et al., 2004), and in most parts of the country,

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the skill for caesarean section may be lacking, assisted breech delivery may still be relevant in our practice.

In our center, it is the practice to assess all women with persistent breech presentation at term and decide on the best route of delivery. Factors that are considered include the parity, previous delivery of breech or big babies, presence or absence of other pregnancy complications, and the adequacy of the pelvis on clinical pelvimetry. Ultrasound is done to exclude placenta praevia or other soft tissue abnormality and to estimate the fetal weight. Elective caesarean section is done for cases of footling breech, borderline pelvis, placenta praevia, extended neck, estimated fetal weight more than 3.5kg or other obstetric complications. Otherwise, assisted breech delivery with the neonatologist and anaesthesiologist in attendance is carried out. Unbooked women with breech presentation in labour are similarly evaluated. Breech deliveries are conducted by senior obstetricians.

The objective of this study was to compare the neonatal and maternal outcomes between assisted breech delivery and caesarean delivery.

MATERIALS AND METHOD

The setting of the work was the labour ward of Nnamdi Azikiwe University Teaching Hospital, Nnewi (NAUTH). The records of all the term singleton breech deliveries that took place from 1st January 2003 to 31st December, 2007 were retrospectively analyzed. The outcome between vaginal and caesarean births was compared for low 5-minute Apgar score, admission to neonatal intensive care unit, neonatal mortality and maternal morbidity. The statistical analysis was done with Epi-info version 3.5.1 software. A p- value of ≤ 0.05 was taken as significant at 95% confidence limits.

RESULTS

During the study period, term breech delivery accounted for 78 out of the 2742 deliveries, giving an incidence of 2.84%. Fifty two (66.7%) of the patients had vaginal delivery while 26 (33.3%) were delivered through caesarean section.

Table 1 shows that most patients (60.2%, n=47) were aged 25-34 years with a mean age of 29.9±5.7 years. Thirty (38.5%) were nulliparous while the grandmultiparous women constituted 15.4 %(n=12) of the studied population.

The perinatal mortality rate was 50 per 1000 births while the overall maternal morbidity was 17.9%. As shown in table 2, assisted vaginal breech delivery was associated more significantly with low Apgar score (score < 7) at 5-minutes (X^2=8.19; OR =8.80, P=0.004) while mothers who were delivered through caesarean section had significantly, more morbidity (X^2=3.14, OR=0.29, P= 0.04). There was no significant difference between the two groups in terms of neonatal intensive care unit(NICU) admission rate (X^2=2.84, OR=2.56, P= 0.09) and neonatal mortality (X^2=0.11, OR=1.60, P=0.38).

Table 3 shows that prolonged hospital stay and blood transfusion were the commonest maternal morbidities

Table 1
Sociodemographic characteristics of the patients

Sociodemographic characteristics	N=78	%
Age in years		
<20	2	2.6
20-24	11	14.1
25-29	26	33.3
30-34	21	26.9
≥35	18	23.1
Parity		
0	30	38.5
1-4	36	46.1
≥5	12	15.4
Booking status		
Booked	33	42.3
Unbooked	45	57.7

Table 2:
Comparing obstetric outcomes between vaginal delivery and caesarean section term breech delivery

Outcome	Vaginal delivery (%)	Caesarean section (%)	X^2	OR	P-value
APGAR <7 at 5- MINUTES	22 (42.3)	2 (7.7)	8.19	8.80	0.004
NICU admission	32(61.5)	10(38.5)	2.84	2.56	0.09
Neonatal mortality	9(17.3)	3(11.5)	0.11	1.60	0.38
Maternal morbidity	6(11.5)	8(30.8)	3.14	0.29	0.04

Table 3:
Pattern of maternal morbidity

Morbidity	Vaginal delivery(n=52)	C/S (n=26)	Total (n=78)
PPH	1	0	1
Genital tract trauma	2	0	2
Prolonged hosp. stay	1	3	4
Blood transfusion	1	5	6
Epis. wound infection	1	-	1
Total	6	8	14
% morbidity	11.5%	30.8%	17.9%

DISCUSSION

The incidence of breech delivery at term of 2.84% found in this study is comparable to 2.1 to 3.1% reported in southwestern Nigeria (Fawole et al., 2001; Orji et al., 2003; Fasubaa, 2004) but higher than 1.4% reported in Calabar, south-south Nigeria (Abasiattai et al., 2004; Abasiattai et al., 2006). In sub Saharan Africa, the incidence ranges from 2.4% in Zambia to 2.7% in Gabon (Nkata, 2001; Meye et al., 2003). The caesarean section rate among women with breech presentation at term from this study was 33.3% and was also comparable to 37.1% reported in Calabar (Abasiattia et al., 2006). One of the major benefits of assisted vaginal breech delivery is its effect on reducing the caesarean section rate and the associated, morbidity and mortality.

The incidence of low Apgar score at 5-minutes (defined as a score less than 7), as found in this study was significantly higher among the vaginal delivery group, than the caesarean section group. A similar finding was noted in Ile-Ife, Nigeria (Orji et al., 2003) and Sweden (Herbst et al., 2001). In our environment, Apgar score has been shown, not to be a very reliable index for assessing birth asphyxia and the need for neonatal resuscitation due to its subjective nature (Enabudoso and Gharoro, 2005). Therefore, it is not surprising that despite a significant difference in 5-minute Apgar score, the NICU admission rate, and the neonatal mortality rate were not significantly different between the two groups.

The perinatal mortality rate of 50 per 1000 births as found in the study is higher than 32 per 1000 reported by Orji et al (2003) in Ile-Ife but lower than 62.5 per 1000 found in Ibadan (Fawole et al., 2001). These variations may reflect differing patients' characteristics or institutional policies. The overall maternal morbidity rate of 17.9%, is comparable to 23.2% reported in Ibadan, Nigeria (Fawole et al., 2001).

Maternal morbidities were significantly higher among the caesarean section group than the vaginal delivery group. These morbidities were mainly due to surgery. There was no significant difference in the neonatal intensive care unit (NICU) admission rate and neonatal mortality between the two groups. Similar results had been reported in other studies which used the strict criteria for patients' selection (Kumari and Grundsell, 2004; Alarab et al., 2004; Goffinet at al., 2006; Doyle et al., 2005; Sobande et al., 2007).

The implication of this finding is that in well selected patients, neonatal outcome following assisted vaginal breech delivery and planned caesarean section may not be different. Owing to the high level of aversion to caesarean section by our women (Aziken et al., 2000; Ezechi et al., 2004), as well as the associated surgical risks, a whole scale policy of caesarean section for all cases of term breech delivery may not be feasible in our environment. Moreover, the policy will inevitably lead to an overall increase in caesarean section which will put a strain on the very limited resources in the region. As breech presentation is not a recurrent indication for caesarean section, most of these women who had caesarean section will attempt vaginal delivery in their subsequent pregnancies with the associated risk of uterine rupture. Owing to the very high premium placed on vaginal delivery by the African women and the fear of a repeat caesarean section, a significant number of these women may not present to a proper health facility for management. The consequence is increased likelihood of uterine rupture and the attendant maternal mortality and morbidity.
Furthermore, in Africa, labour and delivery are not just medical matters, but carry a huge cultural significance. Any intervention that will affect the attitude of the people towards labour and delivery must consider the cultural aspect. We recommend proper patients' clinical evaluation by experienced Obstetricians as the key to successful vaginal breech delivery. The skill for vaginal breech delivery should be taught through the medical schools to the postgraduate period of training.

In well selected cases, the neonatal outcome following assisted vaginal breech delivery and caesarean section may not be different. There is the need for regular training of physicians on the skill for assisted breech delivery.

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