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PLANNED VAGINAL DELIVERY VERSUS CAESAREAN SECTION FOR BREECH PRESENTATION IN ILE-IFE, NIGERIA

E.O. ORJI and K. O. AJENIFUJA

ABSTRACT

Background: **The optimum mode of breech delivery remains a matter of controversy among obstetricians worldwide.**
Objective: **To determine whether term breech babies born by planned vaginal delivery are at higher risk of neonatal mortality and morbidity than those born by planned caesarean delivery.**
Design: **A hospital based non-experimental comparison of outcome of breech delivery.**
Setting: **Ife State Hospitals Complex, Ile-Ife.**
Subjects: **Two hundred and fourty four singleton breech deliveries occurring at term.**
Main outcome measures: **They include low 5-minute Apgar score, birth trauma, maternal and perinatal morbidity and mortality.**
Results: **The perinatal mortality was not significantly different in both groups: OR 2.7 (95% C.I. 0.3 - 26.8). The low 5-minute Apgar scores were higher in the planned vaginal delivery OR 9.0 (95% C.I. 1 - 73.4), but the traumatic morbidity was not (OR 1.8, 95% C.I. 0.2 - 20. 1). Maternal morbidity occurred more in the planned Caesarean delivery group OR 0.4 (95% C.I. 0.2 - 0.9).**
Conclusion: **Given appropriate selection criteria and management protocol, the outcome from elective caesarean section might not be better than from planned vaginal delivery.**

INTRODUCTION

A number of studies reporting better neonatal outcome for term breech infants with abdominal delivery led to the policy of delivering term breeches by elective Caesarean section (1,2). On the other hand, vaginal delivery for selected cases was reported to result in perinatal outcome comparable to those of Caesarean delivery (3-5). The optimum mode of breech delivery remains a matter of controversy as these studies have been criticised on a number of grounds (6,7).

The difficulty in extracting the truth about the optimal management of breech delivery lies in the fact that there have never been any large prospective randomised trials of management (the only two randomised trials are not of adequate size) (7,8). It is certain however that there is inevitably increased inherent risk associated with vaginal breech delivery from the risks of cord compression and trauma to the unmoulded head. Thus the real unresolved question is whether this risk can be totally eliminated by appropriate selection criteria and management protocols. This is the basis for this study, which compares the morbidity and mortality associated with planned vaginal delivery using selection criteria with planned Caesarean section. The results would hopefully assist in determining the appropriate mode of delivery for term breech foetuses and also provide directions for future research in our environment.

MATERIALS AND METHODS

Hospital records of 294 singleton breech deliveries occurring at term between 1995 and 1999 were examined at the Ife State Hospital, Ile-Ife. Cases with antenatal stillbirths, major congenital abnormalities as well as unplanned breech deliveries were excluded. The remaining 244 cases were analysed.

Data extracted from the records included parity, perinatal mortality and morbidity, low 5-minute apgar score; birth trauma, and maternal mortality and morbidity. The outcomes in planned vaginal and planned Caesarean delivery were compared. The odds ratio and 95% confidence interval using the Mantel Haenszel method were calculated for each adverse outcome. The aim was to compare the odds of the particular outcome occurring among women planned for vaginal delivery with the odds of the same outcome among those for elective Caesarean section.

The diagnosis of breech presentation in our hospital is made by abdominal palpation confirmed by ultrasonography. The latter also excludes congenital anomaly, placenta praevia, soft tissue abnormalities and also estimates foetal weight. Clinical and radiological pelvimetry is done at 36 weeks. Elective Caesarean section is performed for footling breech, placenta praevia, borderline pelvis, extended neck, foetal weight above 3.5kg or the presence of other obstetrics complications. Otherwise a 'trail' of vaginal delivery is carried out. The anaesthetist and neonatologist are in attendance at delivery.

RESULTS

The overall incidence of breech delivery at term during the 5-year-period was 3.1%. Of the 244 planned vaginal deliveries analysed, 114 (46.7%) were elective Caesarian section, while 65 (53.3%) were planned for vaginal deliveries. There were 126 (51.6%) successful vaginal deliveries. The proportion of women planned for elective Caesarean section was higher in the primiparous than in the multiparous women (Table 1). And of those planned for vaginal delivery, the proportion of successful vaginal delivery was significantly less in the primiparous women (34.3%) versus 58.6% odds ratio 0.37 (C.I.0.16 -0.83).

Table I

Effect of parity on intended mode and actual mode of breech delivery at term

	Primipara (n=70) No. (%)	Multipara (n=174) No. (%)	Odds Ratio	95% Confidence Interval
Planned Caesarean section	48 (68.6)	66 (37.9)	3.57	1.55-8.23
Planned vaginal delivery	22 (31.4)	108 (62.6)		
Successful vaginal delivery	24 (34.3)	102 (58.6)	0.37	0.16-0.83
All Caesarean section	46 (65.7)	72 (41.4)		

Table 2

Adverse outcome by intended mode of breech delivery at term

Outcome	Planned Vaginal Delivery No. (%)	Planned Caesarean Delivery No. (%)	Odds Ratio (95% confidence Interval)
Perinatal mortality	3 (2.3)	2 (1.8)	2.7 (0.3 -13.4)
Low 5-minute-Apgar score	18 (13.8)	2 (1.8)	9.0 (1.1-73.4)
Birth trauma	4 (3.1)	2 (1.8)	1.8 (0.2 - 20.1)
Maternal mortality	—	—	—
Maternal morbidity	18 (13.8)	34 (29.8)	0.4 (0.2 - 9.0)

Table 3

Main causes of adverse outcome of breech delivery at term

Cause	Total	%
Perinatal mortality		
Cord prolapse	2	0.8
Head entrapment	2	0.8
Intracranial haemorrhage	2	0.8
Severe birth asphyxia	2	0.8
Birth trauma		
Clavicular fracture	2	0.8
Femoral fracture	2	0.8
Bruises	4	1.6
Laceration of breech	2	0.8
Maternal morbidity		
Puerperal pyrexia	12	4.9
Postpartum haemorrhage	8	3.3
Urinary tract infection	12	4.9
Endometritis	10	4.1
Wound infection	8	3.3
Blood transfusion	4	1.6

The perinatal mortality was corrected to exclude antepartum stillbirths and infants with major congenital anomalies since these cases would more likely be delivered vaginally and therefore bias the results towards a worse outcome in the planned vaginal delivery group. The corrected perinatal mortality rate (PNMR) was 32 per 1000 births and was similar in the planned vaginal group and the planned Caesarean groups, odds ratio 2.71 (95% C.I. 00.27 - 26.81) (Table 2). The main causes of death were head entrapment (0.8%), cord prolapse (0.8%), and severe asphyxia (0.8%) (Table 3). The low 5 minutes Apgar score (defined as a score 7) was higher in the planned vaginal delivery group than in the planned Caesarean delivery group. The overall incidence of neonatal traumatic morbidity was 2.6% and included bruises, lacerations, and femoral fracture. It was significantly higher in the planned vaginal delivery group than in the planned Caesarean delivery group. The incidence of maternal morbidity was 23.2%. There was no maternal mortality. The morbidity was mostly infections in origin. The overall maternal morbidity was lower in the planned viginal delivery group.

DISCUSSION

The incidence of breech deliveries at term of 2.9% found in this study is comparable to the range of 2.08% - 3.05% in various areas of Nigeria (9-11). The findings from this study indicate that the risk of perinatal death for infants with breech presentation planned for vaginal delivery was not significantly higher than those planned for Caesarean section. This may be due to the strict selection criteria employed in the selecting cases for trial of vaginal delivery. Studies that observed similar selection criteria (2-5), also observed similar findings. Those that reported better neonatal outcome with abdominal delivery have been observed to have certain shortcomings (12-14). First the vaginal deliveries were not divided into different kinds of breech deliveries such as assisted breech delivery, spontaneous breech delivery and breech extraction, thus assigning higher relative risk of adverse outcome to vaginal breech delivery. Secondly, the breech presentations were not classified into frank, flexed or footling breech; hence cases that should have been selected for Caesarean delivery were allowed to have vaginal delivery with a poor outcome.

Low 5-minute Apgar scores (defined as score below 7 in this study) occurred more frequently in the planned vaginal delivery group than in the planned Caesarean group with an odds ratio of 9.0 (95% C.I. 1.7 - 73.4). A critical review of literature (15) noted that there was a considerable consistency across 21 out of the 24 studies of poorer outcome in those planned for vaginal delivery.

The incidence of traumatic neonatal morbidity is also not significantly different in either intended modes of delivery. This agrees with other findings elsewhere (16-20). It can be attributed to the fact that cases undergoing trial of vaginal delivery that shows any evidence of cephalopelvic disproportion such as slow progress in labour promptly have an emergency Caesarean section. If such cases have been allowed to have vaginal delivery the chances are that traumatic birth injury would have occurred more frequently. Some studies however found a higher incidence of mortality and morbidity among the vaginally delivered infants (1,21).

Our study showed that the overall incidence of maternal morbility is significantly less in the planned vaginal delivery group than in the planned Caesarean delivery group. These findings had been observed by others (15). These are mainly from surgery.

In conclusion, the policy of wholesale Caesarean section for delivery of term breech infants as being advocated and practiced in many centers in developed countries (1,8) needs re-appraisal. There is no clear benefit of abdominal delivery where strict selection criteria is employed in determining the mode of delivery, and the increased maternal morbidity attending abdominal delivery would make Caesarean delivery a less favourable option, especially in our environment where there is a great aversion to Caesarean section and where the woman cannot be guaranteed to report for monitoring in subsequent pregnancy if at all such monitoring facility is widely available in our environment. It is also important to maintain obstetricians' knowledge of how to conduct vaginal breech delivery (7).

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