

CAESAREAN SECTION IN THE MANAGEMENT OF SINGLETON BREECH DELIVERY IN CALABAR, NIGERIA

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ABSTRACT,

Objective: To establish the role of Caesarean section in reducing perinatal mortality following singleton breech delivery in the University of Calabar Teaching Hospital, Calabar.

Method: The case notes of all patients who had singleton breech delivery between 1st January 1991 and 31st December 2000 were studied.

Results: The incidence of singleton breech delivery was 1.4% and 37.1% of the breech deliveries were by Caesarean section. Feto-pelvic disproportion and footling breech presentation were the most common indications for Caesarean section (50.0%). Most of the breeches delivered by emergency Caesarean section (55.0%) were in unbooked patients while the booked ones were mostly delivered by elective Caesarean section (80.0%). There was a statistically significant decrease in perinatal mortality in primigravid breeches ($p=0.018$) and in fetuses estimated to weigh above 3.5 kilograms ($p=0.0005$) following Caesarean section.

Conclusion: This study shows that Caesarean section plays a very important role in the management of breech presentation in our environment. We advocate elective Caesarean section of all primigravid breeches and those whose fetuses are estimated to weigh above 3.5 kilograms.

KEY WORDS: Singleton breech delivery, Caesarean section, perinatal mortality.

INTRODUCTION

The management of breech presentation is a highly topical issue the world over¹. This is because of the poor outcome in both the mother and the fetus that accompany this fetal presentation². Prematurity, birth asphyxia, birth trauma, and congenital anomalies have been reported as being responsible for the higher perinatal morbidity and mortality associated with breech presentation^{3,4}. Consequently, several approaches to management have been proffered including planned vaginal breech delivery in selected cases, routine elective Caesarean section and external cephalic version at term^{5,6,7}. These assumptions were however criticized as having many pitfalls⁸, and were mostly based on non-experimental retrospective analysis of cases or personal experiences⁹. However recently, the term breech trial, the first large multi-center controlled study of its kind provided unequivocal evidence that women with breech presentation at term delivered by planned Caesarean section will have their babies less likely to die or have any serious adverse outcome than those who undergo planned vaginal delivery (relative risk 0.33, 95% confidence interval 0.19 to 0.56)¹⁰.

The result showed a 1% increased risk of perinatal death and a 2.4% increased risk of serious neonatal morbidity when a vaginal birth was planned¹⁰. However, a policy of elective Caesarean delivery for all our breeches may not be ideal and acceptable in an environment such as ours where large family size is the norm and where there is very strong aversion to operative delivery¹¹. Women with previous Caesarean section scars who are at high risk of subsequent uterine rupture often default from antenatal care (ANC) and attempt delivery in unorthodox health facilities¹². Thus, in our center, Caesarean section is reserved for cases where the fetus is estimated to be large, in cases of previous Caesarean section, where feto-pelvic disproportion is suspected or if there are any additional obstetric complications.

To the best of the knowledge of the authors, no work has previously been carried out to assess the role of Caesarean section in the management of singleton breech delivery at the University of Calabar Teaching Hospital (UCTH), Calabar. Thus, this study is designed to assess the use of Caesarean Section in breech delivery, the incidence, indications and its influence on perinatal mortality (PNM) in UCTH, Calabar.

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MATERIALS AND METHODS

This study was carried out at the maternity annex of UCTH, Calabar. Calabar is the capital of Cross River State in South-South Nigeria. It has a landmass of about 411,320 square kilometers and a population of 328,876 (National population commission, Calabar). Its inhabitants are mainly civil servants, traders, farmers and fishermen.

The case notes of all the patients who had singleton breech delivery between 1st January 1991 and 31st December 2000 at UCTH were studied. The data extracted included the mode of delivery, parity, their ages, birth weights, indications for Caesarean section, booking status and perinatal outcome. The data were analyzed using tables and percentages. Statistical analysis was done with chi-square using stat cat of Epi-info version 2000 statistical package. A p-value of < 0.05 was considered significant.

RESULTS

There were 157 singleton breech deliveries and a total of 11,058 deliveries during the study period resulting in an incidence of 1.4% for singleton breech delivery. One hundred and fifty one (96.2%) folders were available for in-depth study and data analysis was based on these.

Fifty-six of these cases were delivered by Caesarean section, resulting in an incidence of 37.1%. Thirty-four (60.7%) were elective Caesarean sections while 22 (39.3%) were performed as emergency. The age range of the patients was 18-40 years with majority (83.4%) occurring in the 20-35 year age group.

The indications for Caesarean section (CS) are shown in table 1. Feto-pelvic disproportion and footing breech presentation were the commonest indications (50.0%), while failed induction of labour (1.8%) was the least common.

Twenty-five (44.6%) of the patients were booked patients while 31 (55.4%) were unbooked. The elective Caesarean section rate was higher among the booked patients (80.0%) when compared to the unbooked ones (45.0%). In contrast, the emergency

The effect of the mode of delivery and birth weight on perinatal outcome is shown in table IV. There was a statistically significant increase in the number of PNDs following VBD when the fetal birth weight was greater than 3.5 kilograms ($p=0.0005$).

The effect of parity and mode of delivery on perinatal outcome is shown in table V. There was a statistically significant increase in the number of PNDs among nulliparous patients following VBD when compared to CS ($p=0.018$).

Table 1: Indications for Caesarean Section in Breech Presentation

INDICATION	Number	(%)
Fetopelvic-Disproportion	16	(28.6)
Footing Breech	12	(21.4)
Placenta praevia	8	(14.3)
Breech + uterine fibroids	4	(7.1)
Pre-eclampsia	4	(7.1)
Previous CS	4	(7.1)
Intrauterine growth restriction	3	(5.3)
Obstructed labour	2	(3.6)
Elderly primigravida	2	(3.6)
Failed induction of labour	1	(1.8)

Caesarean section rate was higher among the unbooked patients (55.0%) than the booked ones (20.0%). Thus, booking status had a significant influence on the type of CS performed ($p=0.0079$) table II.

There were 4 perinatal deaths (PNDs) following Caesarean section resulting in a perinatal mortality rate (PNMR) of 71/1000 births. Though lower than the PNMR of 179/1000 births following vaginal breech delivery (VBD), this was not statistically significant (table III).

Table II: Influence of Booking Status on the Type of CS.

Mode of delivery	No. of births	PNDs	(%)
CS	56	4	(7.1)
VBD	95	17	(17.9)
Total	151	21	

$X^2 = 7.04, p = 0.0079, df = 1$

Table III: Effect of Mode of Delivery on Perinatal Outcome

Booking status	Type of Caesarean Section		
	Elective (%)	Emergency (%)	
Booked n=25	20 (80.0)	5 (20.0)	
Unbooked n=31	14 (45.0)	17 (55.0)	
Total	34 (61.0)	22 (39.3)	

$X^2 = 2.64, p = 0.1041, df = 1$

Table IV: Effect of Mode of Delivery and Birth Weight on Perinatal Outcome.

Mode of delivery	No. Of births	Perinatal deaths No.	(%)
Babies weighing < 2.5kg			
CS	8	2	(25.0)
ABD	42	10	(23.8)
$X^2=0.01, p=0.942$			
Babies weighing > 3.5kg			
CS	22	7	(77.8)
ABD	9		
$X^2=12.02, p=0.0005$			
Total	31	10	

Table V: Effect of Parity and Mode of Delivery on Perinatal Outcome

Parity	Mode of delivery & perinatal outcome			
	CS	PND No. (%)	VBD	PND No. (%)
Nulliparous	18	0 (0)	32	9 (28.1)
$X^2=6.17, p=0.018$ (Fisher's exact)				
Multiparous	38	5 (13.2)	63	6 (9.5)
$X^2=0.32, p=0.743$ (Fisher's exact)				
Total	56	5 (13.2)	95	15(46.6)

DISCUSSION

The incidence of singleton breech presentation at delivery in our center (1.4%) is similar to that reported from other centers in this country^{13,14,15}. However, the Caesarean section rate following breech presentation of 37.1% in this study is much higher than the overall Caesarean section rate of 14.6% earlier reported from this center¹¹. This has also been the experience of most other authors^{14,16,17}. This underlies the importance of Caesarean section in the management of breech presentation even in an environment such as ours. It further underscores the fact that the un-acceptably high PNM associated with breech presentation cannot be significantly reduced without recourse to Caesarean section in a good number of cases¹⁸.

Feto-pelvic disproportion and footling breech presentation were the commonest indications for Caesarean section in our center. Even with minor degrees of pelvic contracture, the danger to the fetus from birth trauma is enormously increased if VBD is attempted. This is of particular relevance to us in this environment where poverty, recurrent infections, malnutrition, and early marriage still endemic, have led to failure of our adult women attaining their full developmental potentials and subsequently a high incidence of generally contracted pelvis. Caesarean

section has been advised for all footling breech presentation once diagnosed as available literature shows a significantly increased perinatal morbidity and mortality in this presentation due principally to an increased incidence of cord prolapse and entrapment of the after-coming head by an incompletely dilated cervix¹⁹.

The booked patients had significantly more elective Caesarean sections than the unbooked ones who had more emergency ones. This was probably because of the proper antenatal evaluation of our booked patients with breech presentation and subsequent elective Caesarean delivery of those unsuitable for VBD. The unbooked patients however presented after many hours in labour mostly from unorthodox health facilities with additional obstetric complications necessitating urgent abdominal delivery.

The PNMR following CS in this study was much lower than that following VBD. However, a policy of routine elective CS for all our breeches because of fetal benefits cannot be recommended based on this because the difference in the PNMR was not statistically significant, our study population was small, there was no randomization and we included undiagnosed breeches and unbooked patients. Thus, a larger randomized study-comparing outcome by intended mode of delivery in our center is certainly needed. Delivery of breeches weighing greater than 3.5 kilograms (kg) by CS was significantly associated with a better perinatal outcome in this study. Several studies have also shown better PNM rates for birth weights greater than 3.5kg following CS¹⁶. PNM from trauma is progressively higher following vaginal delivery of big breeches, as the amount of obstetric manipulation required to effect delivery is increased²⁰.

There was also significantly better perinatal outcome for nulliparous patients following CS when compared to VBD. This may indicate the need for elective CS for all our term breech primigravidae as currently practiced by some obstetricians.

This study has shown that CS plays a very important role in the management of breech presentation in our environment, as it is associated with a better perinatal outcome particularly in the nullipara and in big breeches. Hence, encouragement of our women on the need to avail themselves for orthodox antenatal care in order to benefit from proper antenatal evaluation cannot be over-emphasized. Thorough clinical and ultrasonographic assessment of fetuses presenting by the breech should be routine in all our maternity units and all those estimated to weigh above 3.5kg offered elective CS. We must strongly consider delivering all our term primigravidae by elective CS as this has clearly been shown to significantly improve perinatal outcome.

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