Breech Presentation Among Nullipara at Term: An Indication for Caesarean Section

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ABSTRACT

Background

Breech is the commonest malpresentation. Vaginal breech delivery in a nulliparous lady carries higher risk than in multiparous ladies. Poor neonatal outcome following vaginal delivery has made the mode of delivery a matter of controversy.

Objective

To evaluate the outcome of planned caesarean section among nullipara ladies with breech presentation.

Method

This is a prospective, analytical study conducted in Dhulikhel Hospital Kathmandu University Hospital from January 2008 to June 2012 among 102 nullipara ladies at term gestation with breech presentation. All cases underwent caesarean section either elective or emergency. During section cause of breech presentation was searched for. Neonatal condition was evaluated using APGAR Score, need for resuscitation and admission in NICU. Post partum status was also recorded for evaluation of maternal morbidity and mortality.

Results

These Nullipara ladies often had some reason for breech presentation, the most common being cord around the neck. Perinatal outcome was uneventful in 97(95%) neonates, there were two (2%) still birth and three (3%) needed NICU care. APGAR was good in 92 neonates, average in eight and poor in two. Total 16(15.6%) ladies stayed hospital for more than eight days. Among them 11(10.7%) developed wound infection and five stayed in hospital waiting for baby.

Conclusion

Nullipara ladies with breech presentation should have elective caesarean section as a preferred route of delivery.

KEY WORDS

Caesarean delivery, mode of delivery, primi breech, vaginal delivery

INTRODUCTION

When the podalic part occupies the lower uterine segment the presentation is known as breech. Its incidence is around 25% before term and reduces to 4% by term. The reason for this reduction in incidence is due to spontaneous internal cephalic version. Any factor which prevents this internal cephalic version results in breech at term.[1] Breech presentation is associated with higher perinatal morbidity and mortality rates than cephalic presentation and is often related to the mode of delivery.

Appropriate management of breech delivery at term has always been a controversial issue. Though studies have suggested no difference in neonatal outcome between vaginal breech delivery (VBD) and elective caesarean group (ECG), VBD has been found to be associated with poor APGAR score, neonatal morbidity and mortality.[2] Also planned caesarean section among such patients was found to be beneficial than emergency caesarean.[3]

Planned vaginal delivery is safe if patients are selected carefully. Even after careful selection the risk of neonatal complications are still persist.[4] Different studies have shown the probability of emergency caesarean among patients with attempted vaginal delivery at term varied from 17.4 to 51%.3 Further ladies undergoing emergency caesarean section for breech were mostly nullipara and also neonates delivered through emergency section had increased complications.[5]

Thus it is evident that nullipara ladies with breech presentation had maternal/neonatal complications and increased operative interference when vaginal delivery was attempted. Hence this study aims to justify the mode of delivery for nullipara with breech and also to highlight the cause of breech.

METHODS

This is a prospective, analytical study conducted in Dhulikhel Hospital, Kathmandu University Hospital from the January 2008 till June 2012 after ethical approval from the institutional review committee. At the prevalence of breech at term of 4%, we calculated the sample size of 60, we took sample size of 102 after including all nullipara ladies who presented with breech presentation. Breech in multipara ladies, preterm deliveries and breech with intrauterine death were excluded from the study. All cases were planned for caesarean section and were admitted in the obstetric ward at or before starting of labour. Preoperative cardiotocography and written informed consent were taken prior to the surgery. Patients were operated with caesarean section by practising obstetricians. During section cause of breech presentation was noted and neonatal condition was evaluated using APGAR Score, need of resuscitation and NICU admission. Post partum status was also recorded to analyse maternal morbidity and mortality associated with caesarean section.

Demographic and other parameters as maternal age, race, gravida, presence and absence labour, cause of breech presentation, APGAR score, need of NICU admission, need of resuscitation, maternal morbidity, duration of hospital stay were recorded. APGAR was graded as good (>7), average (5-7) and poor (<7).1 Data entry and statistical analysis was done using Microsoft Excel 2010 and Statistical Package for Social Sciences (SPSS) version 16.

RESULTS

During the study period, total 8583 ladies delivered in the hospital. Of these, 102(1.18%) ladies were nullipara with breech presentation at term. Age of the patients ranged from 15-34 years and most (59.8%) of these ladies belonged to age group 20-25 years. Among the cases 34(33.3%) were from Mongolian origin, 33 (32.4%) were Brahmins, 18(17.6%) were Newars and 17(16.7%) were Chettries.

Among total 102 cases, 99(97.1%) was primi gravidas and three were multigravidas with previous abortions but were nullipara. While reviewing their Antenatal checkup (ANC) visits, 61 (59.8%) were booked case of Dhulikhel hospital. 39(38.2%) were having ANC at other centres and two cases had no ANC visit.

Among 102 cases 22(21.6%) patients were not in labour, 39(38.2%) presented in latent phase of labour and 41(40.2%) presented in active phase of labour. There were four cases who presented in less than 37 weeks of gestation and were not in labour, 76(74.5%) presented at term (37- 40 weeks) and 22(21.6%) cases were post-dated (>40 weeks). 24(23.5%) cases had elective caesarean while 78(76.5%) had emergency caesarean section.

Most of neonates were Appropriate for Date (53.9%) (Birth weight between 10-90thpercentile for the gestational age).[1] Frank breech was most common type of breech presentation seen during the study period. (Fig 1) Cord around the neck (28.4%), Oligohydramnios (17.6%) and short cord (13.7%) were the frequently encountered causes. (Table 1) Among six patients no apparent cause was found. Uterine anomaly was found among 12(11.7%) patients. (Table 2)

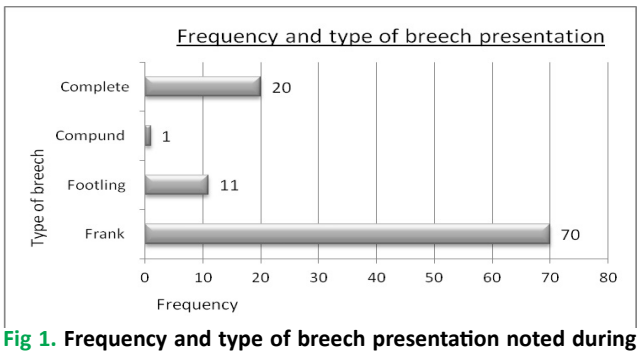

Fig 1. Frequency and type of breech presentation noted during caesarean.

The results are clearly evident that there were good APGAR scores among all patients with elective delivery as compared to emergency caesarean. (Table 3) Ladies who

Table 1. Cause of breech presentation noted during caesarean.

Cause of Breech presentation	Frequency	Percentage
No known cause	6	5.8
IUGR	3	2.9
Uterine anomaly	12	11.7
PPROM	3	2.9
Contracted pelvis	10	9.8
Prematurity	2	2.0
Macrosomia	1	1.0
Congenital anomaly in the baby	1	1.0
Oligohydramnios	18	17.6
Short Cord	14	13.7
Cord around the neck	29	28.4
Placenta Previa	3	2.9
Total	102	100.0

Table 2. Types of uterine anomaly as a cause of Breech presentation.

Type of uterin anomaly	Frequency	Percent
No Anomaly	90	88.2
Arcuate	7	6.9
Unicornuate	2	2.0
Septed	3	2.9
Total	102	100.0

Table 3. Comparison of APGAR at 5 min with elective versus emergency caesarean section.

	APGAR at 5 min			
Mode of Delivery	Average (5-7)	Good (>7)	Poor (<5)	Total
Emergency LSCS	8	68	2	78
Elective LSCS	0	24	0	24
P value	0.004	4.49E-06	0.15	

Table 4. Comparison of APGAR at 5 min with phase of labour.

	APGAR at 5 min			
Phase of Labour	Average(5-7)	Good(>7)	Poor(<5)	Total
Not in labour	0	22	0	22
Active Phase of Labour	8	31	2	41
Latent Phase of Labour	0	39	0	39
P value	0.0003	0.09	0.135	

underwent caesarean in latent phase or before that had good APGAR scores than ladies who had progression of labour beyond that. (Table 4)

The perinatal outcome was satisfactory in 97 (95%) neonates, there were two still birth and three needed NICU care for few days. All cases shifted to NICU were in view of respiratory distress following meconium aspiration. All five cases with poor neonatal outcome belonged to unbooked patients who presented in active phase of labour and were operated with emergency caesarean section.

Total 16(15.6%) ladies stayed in the hospital for more than eight days. Among them 11(10.7%) developed wound infection and five stayed waiting for her baby for completion of antibiotics.

DISCUSSION

Several authors have advocated that there is a place for vaginal breech delivery despite evidence of increased neonatal morbidity and mortality.[6] In a prospective study performed by Goffinet F et al where vaginal delivery at term was conducted under standard conditions, neonatal outcome was not significantly poorer among newborns than those following planned caesarean deliveries.[7] Several examinations must be performed routinely antenatally to help decide mode of delivery. According to them most of the studies in this subject are conducted in retrospective manner and generally report increased neonatal morbidity and mortality.

Koo MR et al concluded that even after strict selection of patients for vaginal delivery, neonatal morbidity and mortality was increased among neonates with vaginal delivery as compared to neonates with elective caesarean section.[8] The overall neonatal outcome was better in elective caesarean section group as compared to vaginal birth. Our results correspond to this study where perinatal outcome was better in elective than in emergency caesarean section. Caesarean rate after planned vaginal delivery for breech presentation at term varied in different series from 17.4 to 50%. Decision of caesarean in last situation probably leads to default decision to perform caesarean section and is again associated with poor perinatal outcome than elective one.[9-11]

Roman H et al indicated that once vaginal delivery has been decided upon, the risk of caesarean delivery during labour for breech presentation depends not only upon the progress of labour, but also on perinatal determinants both maternal and obstetrical.[3] The term breech trial by Hannah ME. et al, published in 2000 suggested that neonatal risks associated with term vaginal breech births are much higher than caesarean deliveries.[2] Hence, caesarean should be systematically planned for all such woman.

In 2001 the ACOG recommended caesarean delivery for term singleton breech. This recommendation was based largely on the results of the term breech trial, which found that caesarean section was associated with reduced mortality and serous morbidity in the newborn.[12] Following this recommendation the caesarean section rate increased in various counties significantly. Caesarean rates were up to 86% in Sweden and 80% in Netherlands.[13] In 2006 the ACOG recommendation was amended because of continuing controversy regarding the true long term risks of term vaginal breech delivery.[14] The importance of operator experience, strict protocols and patient counselling in any decision to pursue a breech vaginal delivery were

emphasized.

Kumari AS et al mentioned that caesarean delivery had increased maternal morbidity than vaginal delivery.[5] Caesarean delivery also had possible risks for subsequent pregnancy including caesarean delivery in future pregnancies. Our study also showed 11(10.7%) cases of wound infection and all belonged to emergency caesarean section. However despite the incidence of increased maternal morbidity, neonatal outcome was found to be better following elective caesarean section.

Regarding caesarean in subsequent pregnancies, successful vaginal delivery can be performed following caesarean section for breech in first pregnancy.[15] Women who had undergone caesarean section in their first pregnancy, 85% of them delivered vaginally in their subsequent pregnancy. There were only 10 ladies who didn't deliver vaginally and all were found to have contracted pelvis. Regarding Multiparity and vaginal breech delivery, multipara ladies are more likely to deliver vaginally than nulliparous and had no complications.[5] Gilbert WM et al also reported high neonatal death rate among nullipara ladies following vaginal breech delivery.[16] The dilemma here is about mode of delivery nullipara rather than multipara. A study performed on breech presentation and caesarean section by Leiberman JR et al in term nullipara ladies suggested to have a caesarean section as preferred route of delivery.[17]

All these studies correspond our study where results were seen to be better following elective caesarean section. Also, our study has highlighted the cause of breech presentation. Each of the factors if not considered or taken into account may be associated with greater risk for the adverse perinatal outcome. Hence, for nullipara ladies at term gestation with breech pregnancy we advocate the use of elective caesarean section as a safe alternative to vaginal breech delivery.

CONCLUSION

Breech delivery in nullipara ladies is always at risk than in multiparous. There is always a reason behind the persistence of breech presentation at term. These cause if not considered seriously can bring about adverse neonatal and maternal outcomes. Even after proper evaluation the chance of undergoing into caesarean section in nullipara breech is considerably high. Elective planned caesarean is found to have good perinatal outcome compared to emergency caesarean. In modern obstetrics, nullipara ladies at term with breech presentation should go for elective caesarean section than vaginal delivery.

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