ORIGINAL ARTICLE

Maternal and Fetal Short Term Outcome in Breech Delivered Vaginally

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ABSTRACT

Background: Breech presentation at birth itself even without any other pregnancy related risk factors contributes to increased infant mortality, poor maternal outcomes and perinatal complications. Perinatal mortality is increased 2- to 4-fold with breech presentation, regardless of the mode of delivery. In our system the flaws in antenatal care and lack of medical facilities make it obligatory to give special attention to issues related to breech presentation. Considering this, we aimed to assess neonatal and maternal outcome in patients with singleton infants having frank/complete breech presentation at term.

Aim: To review the short term neonatal and maternal outcome in selected group of patients with singleton infants having frank/complete breech presentation at term.

Methodology: we encountered 310 patients with breech presentation out of which the selected number for normal delivery turned out to be 103 considering our already set inclusion and exclusion criteria. For this study we chose APGAR score at 5 minutes, obvious fetal trauma of any degree, and neonatal death as fetal outcome. For the maternal outcome we chose occurrence of episiotomy, perineal trauma of any degree, cervical tear, PPH and maternal mortality.

Results: In our study out of these 310 patients 103(33%) underwent a successful vaginal birth and the rest 67% had a cesarean delivery. There were 52% female babies, 35% multi gravida, one case of post-partum hemorrhage and no maternal mortality cases reported. Frequency of cervical tear turned out to be 4.9%, perineal trauma was 1% and the incidence of episiotomy was 65%. Fetal outcome revealed that 97% neonates were born with good APGAR and over 1% and 102(99%) were born alive.

Conclusion: The chief mode of delivery in breech presentation is cesarean section but vaginal delivery is still an option specially for our setup when we can keep a strict criteria for selecting patients and where qualified and trained staff is available for the services as the short term neonatal and maternal outcome is not much different in both the modes of delivery in frank breech presenting group.

Keywords: Breech, perinatal trauma, c-section

INTRODUCTION

The critical procedure of delivering a baby is further complicated with breech position, increasing chances of cesarean delivery and posing its potential risks on both mother and baby[1]. The fetometarnal outcome worsens if associated complications like low birth weight, preterm delivery and pre-eclampsiaare added to the situation[2]. Breech presentation at birth, if accompanied with other pregnancy related problems may not only contribute to infant mortality, poor maternal outcomes and perinatal complications but also has been documented to result in long-term health issues like poor cognitive skills of the child[3].

However, studies to understand the long-term implications of breach presentation and factors that may increase the risk of this are scarce[3]. Breech presentation is defined as a fetus in a longitudinal lie with the buttocks or feet closest to the cervix in the lower uterine segment. So far, three types of breech presentation are known; Frank/pike position in which buttocks present causing legs to lie along the body axis, complete/ cannonball position in which buttocks present causing legs to bend at knees and feet near buttocks and third type is footling or incomplete breech in which one or both feet are aimed at birth canal[4].

Usually the percentage of breech deliveries decrease as the gestational age increases. Approximately 24% at 28 weeks, 17% at 30 weeks, 11% at 32 weeks, 5% at 34 weeks to finally 3-4% in 37-40 weeks of gestation. Every 1 in 25 full term pregnancies are positioned breech. Out of these, the incidence of frank breech is around 50-70%, of complete breech is 5-10% and that of incomplete or footling breech is 10-40%. [5]Perinatal mortality is increased 2- to 4-fold with breech presentation, regardless of the mode of delivery. Deaths are most

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often associated with malformations, prematurity, and intrauterine fetal demise[6].

In our system the flaws in antenatal care and lack of medical facilities make it obligatory to give special attention to issues related to breech presentation. It is an internationally debatable query to know whether normal vaginal birth for a breech presentation carries any significant risk to the delivering fetus and laboring mother or not, or should normal delivery for a breech presentation still stay in practice. Considering this, we aimed to assess neonatal and maternal outcome in patients with singleton infants having frank/complete breech presentation at term.

The objective of the study was to review the short term neonatal and maternal outcome in selected group of patients with singleton infants having frank/complete breech presentation at term.

METHODOLOGY

This cross sectional survey was conducted at Bacha Khan Medical Complex Hospital, KPK, and Pakistan in the labor ward of Obs and Gyne department of the said hospital. Women with Singleton frank breech presentation of 36 weeks or more gestation with estimated fetal weight between 2500 and 3000 grams, in active labor were included in the study. Patients were interviewed for their detailed history and went through detailed clinical examination and an ultrasound as tool to conclude whether to keep them in the selected group for vaginal birth or an elective cesarean section if the presentation was breech. For patients coming through emergency department the doctors on emergency duty completed the obligatory responsibility and grouped the patients to let them go through vaginal birth or a C-section after an informed consent from the patient and attendants. In the targeted duration which is from January 2014 to January 2015 we encountered 310 patients with breech presentation out of which the selected number for normal delivery turned out to be 103 considering our already set inclusion and exclusion criteria based on the literature available nationally and internationally. The selected patients were let to go through the normal process of labor with strict watch on the fetal and maternal monitoring and along with that following the progress of labor through a partogram chart. All the patients assigned to the selected group did deliver normally and their detailed data got registered in the data base along the intrapartum events and immediate fetal and maternal outcome. For this study we chose APGAR score at 5 minutes, obvious fetal trauma of any degree, and neonatal death as fetal outcome. For the maternal outcome we chose occurrence of episiotomy, perineal trauma of any degree, cervical tear, PPH and maternal mortality. Later on retrospectively this data was collected from the data base and was entered into SPSS-20 by defining and then coding variables in the variable view and the coded data was analyzed for the frequencies and percentages of the chosen variables.

RESULTS

In the obs and gyne department labor ward of BKMC the average flow of patients with full term gestation delivering whether vaginally or through cesarean section is 7680 per year in unit A which is 50% of the total flow to BKMC labor ward. Out of these 7680 patients according to our data collected there were 310 patients with full term breech presentation which is corresponding to 4.02%. In our study out of these 310 patients 103(33%) underwent a successful vaginal birth and the rest 67% had a cesarean delivery. Analysis of the results revealed that there were 49% primigravida, 35% multi gravida and 19% grand multigravida. 48% of the babies born were males and 52% were females. There was only one case of post-partum hemorrhage and there were no maternal mortality cases reported, frequency of cervical tear turned out to be 4.9%, perineal trauma was 1% and the incidence of episiotomy was 65%. On the other hand fetal outcome revealed that 97% neonates were born with good APGAR and 2% with poor APGAR more over 1% were born with zero APGAR. Out of 103 neonates 102(99%) were born alive and there was only one still birth. Data was all valid and there were no missing cases reported.

DISCUSSION

Breech presentation at birth continues to lead a debate with regard to safer mode of delivery for breech presentation, for or against both frequently opted vaginal and cesarean delivery. There have been so far obscure decisions regarding which mode of delivery contains higher risk of feto-maternal mortality or morbidity with vaginal, planned or unplanned cesarean delivery. One study reported increased risk of infant mortality (OR=2.5), birth injury (OR=12.2), maternal mortality (OR=1.8) and low APGAR score. Whereas, unplanned cesarean also had a greater risk of neonatal convulsions (OR=4.1), maternal morbidity (OR=2.8) and low APGAR score at 5 minutes. [7]Furthermore, there may be a number of maternal, infant and environmental characteristics potentially responsible for increasing risk of breech presentation. Which suggests that there may exist several mechanisms leading to breech delivery that may be biological or non-biological[8].

It is therefore mandatory to explain causative and preventable attributes of breech presentation to reduce its risk. Moreover it is crucial to understand importance of normal vaginal delivery vs. cesarean owing to the fact that at times normal delivery might be inevitable so at that time we need to have trained hands to let it happen successfully. The aim of our study, therefore, was to review the short term neonatal and maternal outcome in selected group of patients with singleton infants having frank/complete breech presentation at term delivered in the obs & gyne department labor room at BKMC from January 2014 to January 2015.

The results of our study were in agreement to most of the national and international studies. The parameters we studied in our study were the factors causing morbidity to the mother like any major or minor perineal trauma to the mother, cervical trauma to the mother, incidence of episiotomy and even maternal death. For the newborns the variables we encountered were APGAR score at 5 minutes after birth, trauma to the newborn and still birth of the fetus. From our results we see the incidence of breech in our population is 4% which is in accordance with another Pakistani study that reported presentation of breech delivery globally to be 3-4% with far higher risk in premature births i.e., 15% at 32 weeks and 30-40% at 20-25 weeks[9].

In our study 33% patients underwent a successful vaginal birth and the rest had a C-section here again we are almost within the globally displayed figures 65%-68%. Further we found that the incidence of episiotomy turned out to be 67% which is comparatively high compared to internationally published data. This difference, apart from the presentation of the fetus, can also be explained by few other reasons. First the reported incidence varies widely from 1% (Sweden)[10] to 80 percent (Argentina).[11]Secondly this variation depends majorly on type of provider performing the delivery. In 2000, Robinson and colleagues reviewed 1576 deliveries at the Brigham and Women's Hospital (MA, USA) between 1994 and 1995 in which they found that midwives had the lowest rates at 21%, academic faculty physicians had an intermediate rate of 33% and private physicians had a rate of 56%[12]. Another reason for rates being higher may be the fact that most of our patients as the results show are primigravidas (48%). Epidural anesthesia and primiparity may increase the incidence of episiotomy[12,13].

In present study the frequency of cervical tear turned out to be 4.9%, perineal trauma was 1% compared to 53.8% in another retrospective study conducted between 1st January 2005 and 31st December 2007 at the University of Port Harcourt Teaching Hospital. They concluded that nulliparity, vaginal breech and instrumental vaginal deliveries are the major risk factors for perineal trauma.[5] This is far more than our results which may be explained by higher rates of episiotomy resulting in lesser rates of perineal trauma which is also supported by literature.[11] There were no maternal deaths recorded and this is comparable globally.[8] Whilst the incidence of poor Apgar score in our study is 2.2% which is comparatively less comparing it with 8% reported locally and 42% reported internationally. [9, 11, 14]
The results of our study are comparable internationally and suggest remedy of factors like poor antenatal care, unbooked status and late arrival to hospital for better feto-maternal outcomes with breech presentation.

CONCLUSION

The chief mode of delivery in breech presentation is cesarean section. Babies presenting breech at birth are mostly born alive, healthy and with good 5 minute APGAR score even with vaginal delivery as well. However, in this era we still have flaws in our system that antenatal cover is not good, intra partum surveillance is poor and our obstetrical professionals are not well trained for delivering breech vaginally. Vaginal delivery is still an option for low resource set up like us when we can choose our patients well and we can also provide them with well-trained birth attendants

REFERENCES

1. Anderson GM, Lomas J. Determinants of the increasing cesarean birth rate: Ontario data 1979 to 1982. Obstetrical & Gynecological Survey. 1985;40(6):357-8.
2. Cibils LA, Karrison T, Brown L. Factors influencing neonatal outcomes in the very-low-birth-weight fetus (< 1500 grams) with a breech presentation. American journal of obstetrics and gynecology. 1994;171(1):35-42.
3. Sorensen HT, Steffensen FH, Olsen J, Sabroe S, Gillman MW, Fischer P, et al. Long-term follow-up of cognitive outcome after breech presentation at birth. Epidemiology. 1999;10(5):554-6.
4. Pradhan P, Mohajer M, Deshpande S. Outcome of term breech births: 10-year experience at a district general hospital. BJOG: An International Journal of Obstetrics & Gynaecology. 2005;112(2):218-22.
5. Ojule J, Oriji V, Georgewill K. Perineal Trauma in Port Harcourt, Souh-South Nigeria. Nigerian Journal of Medicine. 2012;21(1):36-40.
6. Sanchez-Ramos L, Wells T, Adair C, Arcelin G, Kaunitz A, Wells D. Route of breech delivery and maternal and neonatal outcomes. International Journal of Gynecology & Obstetrics. 2001;73(1):7-14.

7. Roman J, Bakos O, Cnattingius S. Pregnancy outcomes by mode of delivery among term breech births: Swedish experience 1987-1993. Obstetrics & Gynecology. 1998;92(6):945-50.
8. Rayl J, Gibson PJ, Hickok DE. A population-based case-control study of risk factors for breech presentation. American journal of obstetrics and gynecology. 1996;174(1):28-32.
9. Mazhar S, Kausar S. Outcome of singleton breech deliveries beyond 28 weeks gestation: the experience at MCH Centre, PIMS. JOURNAL-PAKISTAN MEDICAL ASSOCIATION. 2002;52(10):471-5.
10. Röckner G, Fianu-Jonasson A. Changed pattern in the use of episiotomy in Sweden. BJOG: An International Journal of Obstetrics & Gynaecology. 1999;106(2):95-101.
11. Group AETC. Routine vs selective episiotomy: a randomised controlled trial. The Lancet. 1993;342(8886):1517-8.
12. Robinson JN, Norwitz ER, Cohen AP, Lieberman E. Predictors of episiotomy use at first spontaneous vaginal delivery. Obstetrics & Gynecology. 2000;96(2):214-8.
13. Newman M, Lindsay M, Graves W. The effect of epidural analgesia on rates of episiotomy use and episiotomy extension in an inner-city hospital. Journal of Maternal-Fetal and Neonatal Medicine. 2001;10(2):97-101.
14. Igwegbe A, Monago E, Ugboaja J. Caesarean versus vaginal delivery for term breech presentation: a comparative analysis. African Journal of Biomedical Research. 2013;13(1):15-8.