

Unplanned Vaginal Birth of Singleton Breech Presentation at Term

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ABSTRACT

Objective To determine the perinatal outcome in unplanned term breech vaginal deliveries.

Study design Descriptive case series.

Place & Duration of study Department of Obstetrics and Gynaecology Unit I, Dow Medical College and Civil Hospital, Dow University of Health Sciences Karachi, from November 2014 to October 2015.

Methodology Data of all the women with singleton pregnancy and breech presentation, gestational age between 37 to 41 weeks, who underwent breech vaginal delivery, were collected. Variables studied included maternal age, parity, gestational age, type of breech, reason for conducting breech vaginal delivery, maternal complications, neonatal status and complications.

Results Total births during the study period were 3,932. Total patients presenting with breech were 172 (4.37%) and those presenting at term were 143 (3.6%). Out of these, 54 (37.8%) patients underwent breech vaginal delivery. Overall frequency of breech vaginal delivery of patients at term was 1.37%. Mean maternal age was 26.87 year, majority were multiparous and none was beyond 40 weeks of gestation. There were no maternal complications in 48 (88.9%) patients. Mean birth weight of newborn was 2.75 kg and 63% were females. Eight babies were born dead, of whom 7 arrived with absent fetal heart sounds. The 5 minute APGAR score was less than 7 in 22% cases. There were two neonatal deaths in this group.

Conclusions Fifty-four breech vaginal births were conducted during the study period. Skills related to vaginal birth in breech presentation must be learned by all those who manage pregnant women.

Key words Breech vaginal delivery, Singleton, Term delivery.

INTRODUCTION:

Historically breech vaginal delivery has been an art comprising of specific manipulative skills. It is known to be associated with maternal and neonatal complications including trapped head, cord accidents, birth trauma, perinatal asphyxia, neonatal neurologic morbidity and perinatal death.¹⁻³ It was in late 1950s when caesarean section was first recommended in breech presentations to protect the fetus.⁴ In year 2000, results of a large evidence based trial,

the Term Breech Trial were published and since then, breech presentation has become a globally accepted indication for elective caesarean section.⁵ Royal College of Obstetricians and Gynaecologists currently recommends that planned caesarean section carries a reduced perinatal mortality and early neonatal morbidity for babies with breech presentation compared with vaginal birth.⁶

Despite above facts breech vaginal births cannot be stopped. Underlying factors are refusal for caesarean section and request for vaginal delivery, limited / restricted practice towards external cephalic version and its failure, late arrival in advanced labour and failure to diagnose. In our country where majority of women are under privileged all these factors are common. Adding to them is the fact that antenatal

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attendance is poor and a large number of women attempt delivery at home by unskilled birth attendants.

Over the years the frequency with which breech vaginal deliveries are conducted has reduced markedly. In a study conducted during 1996 – 1999 in Lahore, 63% patients with breech presentation had trial of vaginal delivery.⁷ In another study conducted in Peshawar during year 2000, 55.8% of breech presentations had vaginal birth.⁸ This is in contrast to data collected during 2004 – 2008 from Abbottabad, in which only 26.4% of breech presentations had vaginal deliveries.⁹ All these studies are from tertiary care teaching hospitals. With decreasing frequency of breech vaginal births exposure of obstetricians and supporting staff is getting limited. This in turn can result in increased perinatal morbidity and mortality. Continued learning programs for labour room staff and doctors is therefore mandatory. This study was conducted to determine the current situation in a public sector tertiary care hospital with the aim to determine the maternal and neonatal outcome in women who underwent breech vaginal delivery.

METHODOLOGY:

This descriptive study was conducted in the Department of Obstetrics and Gynaecology Unit I, Dow Medical College and Civil Hospital, Dow University of Health Sciences Karachi. Duration of study was from November 2014 to October 2015. All women with singleton pregnancy, gestational age between 37 to 41 weeks, breech presentation who underwent breech vaginal birth, were included. Data were entered and analyzed using SPSS version

16. Numerical variables like maternal age, parity, gestational age, birth weight and APGAR score were presented as mean±SD. Categorical variables like type of breech, reason for conducting breech vaginal delivery, maternal complications, neonatal complications, neonatal gender and status were described as frequencies and percentage.

RESULTS:

Total births during the study period were 3,932. Total number patients with breech presentations was 172 (4.37%), while those presenting at term were 143 (3.6%). Fifty-four (37.8%) patients underwent breech vaginal delivery while others had caesarean section. Overall frequency of breech vaginal delivery of patients at term was 1.37%. Table I shows demographic details of patients. Mean maternal age was 26.87 year. Majority of women were multiparous and none was beyond 40 weeks of gestation.

Breech was of flexed type in 36 (66.7%) cases, extended type in 16 (29.6%) and footling in 2 (3.7%) cases. Reason for conducting breech vaginal delivery was imminent delivery in 44 (81.5%), absent fetal heart sounds in 7 (12.9%), unexpected, undelivered head and fetal abnormality in 1 (1.8%) each. There was no maternal complication in 48 (88.9%) cases. Vaginal tear occurred in five (9.3%), cervical and perineal tear in one (1.9%) patient each.

Table II shows neonatal outcome and complications. Mean birth weight of newborn was 2.75 kg and 63% were females. Eight babies were born dead, of whom seven arrived with absent fetal heart sounds. The 5 minute APGAR score was less than 7 in 22% cases, who were sent to NICU. Two of them had

Table I: Demographic Data

		Number	Percentage	Mean ± SD
Maternal age	Age Group (Year)			26.87 ±5.46
	15-19	3	5.6	
	20-35	48	88.9	
	36-40	3	5.6	
Parity	Number (n)			2.28 ±2.36
	0	16	29.6	
	1-4	29	53.7	
	5-9	8	14.8	
	>9	1	1.9	
Gestational Age	Weeks			38.8 ±0.92
	37-40	54	100	

Table II: Neonatal Outcome and Complications

		Number	Percentage	Mean ± SD
Birth weight	Weight Range (Kg)			2.75 ± 0.51
	<2.5	14	25.9	
	2.5-3.5	36	66.7	
	>3.5	4	7.4	
Gender	Male	20	37	
	Female	34	63	
Status	Alive	44	81.5	
	Fresh still birth	4	7.4	
	Macerated still birth	4	7.4	
	Early neonatal death	2	3.7	
APGAR score at 1 minute				5.35 ± 2.51
	<7	24	44.4	
	More than or equal to 7	30	55.6	
APGAR score at 5 minutes				6.96 ± 3.15
	<7	12	22.2	
	More than or equal to 7	42	77.8	
Neonatal complications	None	50	92.6	
	Erb's palsy	1	1.9	
	Birth asphyxia	3	5.6	

neonatal death.

DISCUSSION:

The debate on mode of delivery for singleton term breech presentation has continued for more than half a century. A meta-analysis published in a recent BJOG substantiates the practice of individualized decision making for mode of birth in term breech.¹ The results of this meta-analysis are reassuring for a developing country like Pakistan, where majority of pregnant women with poor or no antenatal care and from under privileged areas arrive in emergency during labour and may be found to have breech presentation. The Term Breech Trial does not address this situation.⁵ The Society of Obstetricians and Gynecologists of Canada suggested a guideline for proper selection of patients and appropriate labour management protocols for breech vaginal birth.¹⁰

In the current study frequency of singleton term breech presentation was 3.6%, of which 37.8% were delivered vaginally, while rest had caesarean section. This shows that overall frequency of breech vaginal delivery is low even in one of the busiest public

sector hospitals of a thickly populated metropolitan city. Frequency of 3.6% to 6% has been reported by other authors.^{8,9,11}

In majority of our patients the reason for conducting breech vaginal delivery was that birth was already imminent. Zahoor et al found that 80.29% patients in their study from Peshawar, presented with undiagnosed breech.¹² Ressel B from University of Calgary reported that 8% of breech presentations were undetected until labour in a low risk maternity clinic.¹³ The difference in the two settings is remarkable and highlights the already known fact that public sector hospitals in Pakistan cater for non-booked and referred patients.

Few maternal complications were noted in current series which did not cause serious morbidity. Amongst neonatal complications cause of asphyxia could not be ascertained as the patients came late in labour. Similar results were reported in other studies. According to Hofmeyr GJ, poor perinatal outcome in breech vaginal delivery may actually be due to underlying conditions causing.

malpresentation, eg., fetal abnormalities.¹⁴ Hruban L reported 5 minute APGAR score less than 5 in 2 versus 0, peripheral nerve injury in 2 versus 0 and NICU admissions in 2 versus 10, when comparing planned vaginal versus planned caesarean group. Overall serious neonatal morbidity was insignificant (1.2% versus 1.9%).¹⁵ Jadoon S in a study of 100 breech vaginal births reported 5 minute APGAR score less than 8 in 10% and perinatal mortality rate (PNMR) 40/1000 live births.¹¹ In a study of 105 breech vaginal deliveries in Quetta, eight mothers had complications. They reported a high frequency of perinatal deaths; 35 in vaginal group versus 3 in caesarean group. The reason was emergency admissions and high incidence of congenital abnormalities.¹⁶ Another national study reported the 5 minute APGAR score less than 7 in 4.49% neonates and no case of birth trauma. Maternal complications were seen in 2.8%.⁹ Similar outcome was seen by other researchers.¹⁷

External cephalic version is a recommended option to reduce frequency of breech presentation at term. Its use has decreased the rate of breech presentation at delivery by 39% and breech as indication for caesarean section by 47.1% in Spain.¹⁸ Observations in a study from Peshawar were different as reduction in non-cephalic presentations at term could not be demonstrated.¹⁹ Furthermore, failure rates between 32.5% to 49.7% were reported by other authors.^{18,19} This becomes more important when complications associated with this procedure are considered.

In the current study only 54 term singleton vaginal breech deliveries were conducted. A issue of obstetric skills of consultants, residents and midwives for vaginal breech delivery is being raised. Society of Obstetricians and Gynaecologists of Canada, in collaboration with other stake holders, recommends that theoretical and hands-on breech birth simulation should be part of basic obstetric skills training programs.¹⁰ Studies have shown that such training programs on birth simulators result in improvement of skills.^{20,21}

CONCLUSIONS:

Despite adoption of planned caesarean section as preferred mode of delivery in term breech presentation, breech vaginal births will continue to be encountered. Regular birth simulation training is increasingly becoming important to enhance and refresh obstetric skills.

REFERENCES:

- Berhan Y, Haileamlak A. The risks of planned vaginal breech delivery versus planned Caesarean section for term breech birth: meta-analysis including observational studies. *BJOG*. 2016;123:49-57.
- Hofmeyr GJ, Hannah ME. Planned caesarean for term breech delivery. *Cochrane Database Syst Rev*. 2000;(2):CD000166.
- Arulkumaran S. Malpresentations, malpositions, cephalopelvic disproportion and obstetric procedures. In: Edmonds DK, ed. *Dewhurst's Textbook of Obstetrics and Gynaecology*. 8th edition. Wiley-Blackwell, UK, 2012. PP.311-25.
- Penn Z. Breech Presentation. In: James D, Steer PJ, Weiner CP, Gonik B, Crowther CA, Robson SC, eds. *High Risk Pregnancy-Management Options*. 4th edition. Elsevier, UK. 2011. PP.1101-22.
- Hannah ME, Hannah WJ, Hewson SA, Hodnett ED, Saigal S, Willan AR. Planned caesarean section versus planned vaginal birth for breech presentation at term: a randomized multicentre trial. *Term Breech Trial Collaborative Group. Lancet*. 2000 21;356(9239):1375-83.
- RCOG: The management of breech presentation (Greentop Guideline No 20 b). London, RCOG Press, 2006.
- Nahid F. Outcome of singleton term breech cases in the pretext of mode of delivery. *J Pak Med Assoc*. 2000;50:81-5.
- Rauf B, Ayub T. Maternal and perinatal outcome in term singleton breech presentation. *J Postgrad Med Inst*. 2004;18:373-9.
- Habib S, Riaz S, Abbasi N, Ayaz A, Bibi A, Parveen Z. Vaginal breech delivery: still a safe option. *J Ayub Med Coll Abbottabad*. 2013;25:38-40.
- Kotaska A, Menticoglou S, Gagnon R, Farine D, Basso M, Bos H, et al. Maternal fetal Medicine Committee; Society of Obstetricians and Gynaecologists of Canada. Vaginal delivery of breech presentation. *J Obstet Gynaecol Can*. 2009;31:557-66.
- Jadoon S, Jadoon SMK, Shah R. Maternal

- and neonatal complications in term breech delivered vaginally. *J Coll Physicians Surg Pak.* 2008;18:555-8.
12. Zahoor S, Faiz NR. Maternal and fetal outcome in undiagnosed and diagnosed singleton breech presentation at term. *J Postgrad Med Inst.* 2008;22:113-7.
13. Ressler B, O'Beirne M. Detecting breech presentation before labour: lessons from a low risk maternity clinic. *J Obstet Gynaecol Can.* 2015;37:702-6.
14. Hofmeyr GJ, Hannah M, Lawrie TA. Planned Caesarean section for term breech delivery. *Cochrane Database Syst Rev.* 2015;7:CD000166.
15. Hruban L, Janků P, Ventruba P, Oškrdalová L, Skorkovská K, Hodická Z, et al. Vaginal breech delivery after 36 weeks of pregnancy in a selected group of pregnancy – analysis of perinatal results in years 2008-2011. *Ceska Gynekol.* 2014;79:343-9.
16. Shoaib M, Afridi U, Zille-Huma, Tareen S. Maternal and fetal complications associated with full-term breech delivery in Sandeman Provincial Hospital Quetta. *Pak J Med Health Sci.* 2012;6:620-2.
17. Mukhtar B, Khan B, Rasheed N. Breech presentation at term; fetal outcome in planned cesarean section versus planned vaginal birth. *Professional Med J.* 2013;20:526-9.
18. Burgos J, Rodriguez L, Cobos P, Osuna C, Del Mar Centeno M, Larrieta R, et al. Management of breech presentation at term: a retrospective cohort study of 10 years of experience. *J Perinatol.* 2015;35:803-8.
19. Khanum F, Sabir S, Hassan L. Impact of external cephalic version on mode of delivery of the term singleton breech. *J Postgrad Med Inst.* 2007;21:283-6.
20. Jordan A, El Haloui O, Breaud J, Chevalier D, Antomarchi J, Bongain A, et al. Training of the residents in obstetrics and gynaecology: Assessment of an educational program including formal lectures and practical sessions using simulators. *Gynaecol Obstet Fertil.* 2015;43:560-7.
21. Vieille P, Mousty E, Letouzey V, Mares P, de Tayrae R. Assessment of gynaecology obstetric interns training on birth simulator. *J Gynecol Obstet Biol Reprod (Paris).* 2015;44:471-8.