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Research Article

Vaginal birth in singleton breech: revisited

Hemangi K. Chaudhari*, Raviraj D. Tiruke, Parmanand K. Shah

Department of Obstetrics and Gynecology, Seth G.S. Medical College, KEM Hospital, Mumbai, India

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***Correspondence:**

Dr. Hemangi K. Chaudhari,

E-mail: hemangichaudharik@gmail.com

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ABSTRACT

Background: The purpose of the study was to analyze maternal and perinatal outcome according to mode of delivery in singleton breech presentation retrospectively in a tertiary care center.

Methods: This was a retrospective observational study done in KEM Hospital, during 2012 to 2013. Maternal and perinatal outcome was studied retrospectively. The data was collected from the mother's medical records. The neonatology records were also examined. Primary outcomes included neonatal mortality, morbidity and maternal morbidity.

Results: Out of 100 selected patients; 27 delivered vaginally and 73 underwent lower segment caesarean section (LSCS). Perinatal mortality was 3%. Two out of 3 were delivered vaginally and 1 underwent LSCS. Perinatal morbidity was 1% in vaginal delivery. Maternal morbidity was 2%, both patients underwent emergency LSCS. There was no maternal mortality in the study.

Conclusions: Delivery of breech fetus when labor and delivery is supervised and or conducted by experienced obstetrician lowers maternal morbidity, neonatal morbidity and mortality.

Keywords: Breech, Vaginal, LSCS

INTRODUCTION

There is lot of controversy regarding selection of candidate for trial of vaginal breech delivery. There is not enough evidence regarding the use of planned caesarean delivery for preterm babies, as well as term babies.^{1,2} Caesarean section has been increasingly used to deliver breech presentation to reduce neonatal mortality and morbidity. Breeches account for 10-15% of all caesarean deliveries. Breech presentation is 3rd important indication for caesarean section in recent times.

Still caesarean section does not eliminate the risk of neonatal morbidity completely also it is associated with risks associated with anesthesia and operative complications (increased maternal morbidity).³ Some studies have shown that mode of delivery doesn't influence long term outcome even in the presence of

serious short term neonatal morbidity whereas some suggest good neonatal outcome in elective lower segment caesarean section (LSCS) would definitely influence decision making regarding mode of delivery.⁴⁻⁶

The current study is an attempt to compare perinatal and maternal outcome between assisted breech vaginal delivery and LSCS. In short decision of delivering breech should be individualized.⁷

METHODS

This was a retrospective study comprising of 100 cases of breech presentation delivered after 28 week of gestation at KEM Hospital from January 2012 to November 2013.

Outcome measures studied

Neonatal mortality, neonatal morbidity (need for NICU, fractures, paralysis, respiratory distress, AGAR score at 5 minutes), and maternal morbidity.

Inclusion criteria

Consecutive breech deliveries 100 vaginal or abdominal occurred after 28 weeks of gestation.

Exclusion criteria

- Pregnancy with cephalic presentation.
- Infants with congenital malformations.
- Excluded footling presentation.
- IUFD, still birth.

Statistical analysis

After data collection, data entry was done in Excel. Data analysis was done with the help of SPSS Software version 15.

P-value less than 0.05 is taken as significant level.

RESULTS

As per our study, incidence of emergency LSCS was 66%, elective LSCS to be 7% and that of vaginal delivery was 27%. Occurrence of vaginal breech delivery was common in frank breech than complete type (85% v/s 15%). This association was found to be statistically significant. Babies with birth weight between 1.5 kg to

2 kgs were found to have low Apgar scores than other groups, irrespective of mode of delivery. In multigravida patient with parity 2 or more vaginal deliveries incidence of either mode of delivery was found to be equal (50 % each), whereas in primiparous women incidence of cesarean mode delivery was higher than vaginal delivery (72.7% v/s 27.3%).

Table 1: Distribution of study group as per, mode of delivery.

Mode of delivery	Frequency	Percent
Elective LSCS	7	7.00%
Emergency LSCS	66	66.00%
Vaginal delivery	27	27.00%
Total	100	100.00%

Table 2: Association among study group between mode of delivery and type of breech.

Mode of delivery		Type of breech		Total
		Complete	Frank	
Elective LSCS	Count	6	1	7
	Percent	85.7%	14.3%	100.0%
Emergency LSCS	Count	41	25	66
	Percent	62.1%	37.9%	100.0%
Vaginal	Count	4	23	27
	Percent	14.8%	85.2%	100.0%
Total	Count	51	49	100
	Percent	51.0%	49.0%	100.0%

Pearson Chi-Square value=20.789, df=2, p value=0.000, There is significant association

Table 3: Association among study group between weight in grams and perinatal outcome.

Weight in grams		Perinatal outcome			Total
		Good	Low APGAR	Died	
Upto 1500	Count	9	0	1	10
	%	90.0	0.0	10.0	100.0
1501 to 2000	Count	7	2	0	9
	%	77.8	22.2	0.0	100.0
2001 to 2500	Count	30	0	1	31
	%	96.8	0.0	3.2	100.0
2501 to 3000	Count	35	0	0	35
	%	100.0	0.0	0.0	100.0
3001 to 3500	Count	10	0	1	11
	%	90.9	0.0	9.1	100.0
More than 3500	Count	4	0	0	4
	%	100.0	0.0	0.0	100.0
Total	Count	95	2	3	100
	%	95.0	2.0	3.0	100.0

Pearson Chi-Square value= 25.101, df=10, p value=0.005, Significant association

Table 4: Incidence of mode of delivery and perinatal outcome.

Author	Year	Assisted vaginal breech delivery	Perinatal mortality rate	LSCS	Perinatal mortality rate
Patwardhan et al ¹⁶	1990	75.0	27.09	25.0	0.925
Present	2012-2013	27	7.4	73	1.3

Table 5: Incidence of perinatal loss in relation to parity.

Author	Year	Primigravida	Multigravida
Fathiya ¹⁰	1998	2.4	1.7
H. Alshaheen ¹¹	2005-2006	5.7%	2.8%
Present study	2012-2013	3.4	2.4

DISCUSSION

In this retrospective study we had selected 100 cases of breech presentation delivered at KEM hospital. Hannah and colleagues published term breech trial in 2000 which showed that perinatal, neonatal mortality or serious neonatal morbidity was significantly more for planned vaginal birth group than planned caesarean section group.⁸ Giuliani A et al studied outcome of 699 term singleton breech deliveries at a single center according to mode of delivery.⁹ It was found in their study the rate of serious perinatal morbidity in the vaginal and caesarean delivery groups was 2.3% and 0.5%, respectively. There was no perinatal or neonatal death in either group. With a median follow-up period of 4 years and 9 months (range, 13-100 months), the rate of developmental delay was 1.9% and 0.5%, respectively. Expected birth weight and type of breech are important parameters for outcome of breech vaginal delivery as per our study. Results in our study show that perinatal mortality was common in weight groups of less than 1500 grams and between 3 kg to 3.5 kg. 22.2% of babies in weight group 1.5-2 kg were having low Apgar also 85% of vaginal deliveries were in patients with frank breech.

In our study incidence of perinatal mortality in assisted breech vaginal delivery was 7.4% whereas in LSCS it was 1.3%. Incidence of perinatal loss in prim gravida and multigravida was 2.4% and 1.7% respectively in study conducted by Fathiya et al in.¹⁰ Incidence of perinatal loss in study conducted by H. Alshaheen was 5.7% and in multigravida was 2.8%.¹¹ Incidence of perinatal loss was less in multigravida than primigravida (2.4% v/s 3.4%). Increase in perinatal mortality in primigravida in assisted breech vaginal delivery may be due to rigid perineum in these patients and difficulty in delivery of after coming head. Maternal complications in the planned vaginal delivery group were fewer than in the elective caesarean section group, 2 patients of caesarean group were having abdominal wound gape in our study. Similar results were

found in study by Irion O et al (risk difference 10.5%, 95% CI 3.9 to 17.0).¹² It seems that singleton term infants of multiparas do not benefit from caesarean delivery but associated with increased maternal morbidity.¹³⁻¹⁵

CONCLUSION

Is breech delivery a lost art? Is a statement similar to Is forceps a lost art?

The perinatal morbidity and mortality rate have played a huge role in changing the plan-how to deliver a breech baby. But an important fact is presence of experienced obstetrician.

Vigorous intrapartum monitoring and proper technique of breech delivery have been established as the most important determinant for successful outcome in vaginal breech delivery without compromising fetomaternal well-being and curtailing the caesarean section rate.

Carefully selecting women with breech presentation for vaginal delivery is a must. Our study though retrospective has fulfilled these criteria. 27% of our patients underwent assisted vaginal delivery and complications to both mother and baby were lower.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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