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Original Research Article

A study of perinatal outcome in patients with breech presentation at tertiary care centre

Rajitha Jadhav[1]*, Babli Yadav[1], Kranthi Kumar[2]

[1]Department of Obstetrics and Gynecology, Gandhi Medical College, Bhopal, Madhya Pradesh, India
[2]Department of General Medicine, Rajiv Gandhi Institute of Medical Sciences, Adilabad, Telangana, India

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***Correspondence:**
Dr. Rajitha Jadhav,
E-mail: rajithajadhav95@gmail.com

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ABSTRACT

Background: Regardless of the delivery method, breech presentation causes a 2–4 times increase in perinatal death and morbidity. Any change toward the method or technique of breech birth should attempt to enhance the perinatal result as well as maintain low rates of maternal morbidity and mortality. The success of a particular strategy for the management of labour with breech presentation is determined by the fetal outcome.
Methods: This prospective observational study was conducted in 320 consecutive patients with breech presentation at tertiary care centre from 1 January 2021 to 31 August 2022. This study was approved from Institutional ethical committee.
Results: In 206 primi gravida females, 4 underwent vaginal breech delivery and 202 had LSCS. Among 114 multigravida females, 66 had LSCS and 48 had vaginal breech delivery. Majority (213 cases, 66.6%) were term deliveries and 33.4% (107 cases) had preterm deliveries. 83.38% (268 cases) had LSCS and 16.3% (52 cases) had vaginal delivery. Of all vaginal deliveries 46 were assisted vaginal deliveries and 6 were spontaneous vaginal delivery. It was found that out of all 52 vaginal deliveries, 15 (28.8%) patients had complications. And out of all 268 LSCS, 32 (11.9%) patients had complications. Maternal complications were found to be statistically significant associated with vaginal breech delivery (p=0.02*). Total 5 perinatal mortalities were observed with emergency LSCS and no perinatal mortality was found with elective LSCS.
Conclusions: Multiparous women has better maternal and perinatal outcome compared to Primigravida with breech presentation. Zero perinatal mortality in elective caesarean section. Perinatal outcome is good in elective LSCS than in an emergency LSCS.

Keywords: Breech Presentation, LSCS, Perinatal mortality

INTRODUCTION

The delivery of the cephalic pole first (which is the most frequent) is followed by that of the lower extremities first as part of nature's attempt to deliver the child with the least amount of trauma to the mother and damage to the child. Breech is therefore the most usual type of malpresentation.[1] Breech presentation is defined as a fetus in longitudinal lie with the buttocks or legs adjacent to the birth canal (cervix) or enters it near term before the head.[2] It accounts for 3-4% of cases at term, 20% of cases at week 28, and 5% of cases at week 34 due to spontaneous correction.[3] The third important indication that has increased the number of caesarean sections performed globally in recent years is breech presentation. Prematurity, extended legs, multiple pregnancies, congenital abnormalities such hydrocephalus and

anencephaly, and short cord are fetal characteristics that increase the risk of breech birth.[4]

Breech birth is still one of the primary obstetric difficulties and is always regarded as high risk for vaginal delivery since it is associated with several complications, despite good antenatal care, new developments in obstetrics, and superior hospital delivery facilities.[5] Fetal complications in breech delivery includes preterm, prematurity, risk of cord prolapse, birth asphyxia, subsequent cerebral palsy due to cord compression or cord prolapse, aspiration of amniotic fluid, prolonged labor, fetal injury (fracture of femur and humerus mainly, cervical and brachial plexus injury, visceral injuries etc.) and intracranial hemorrhage (excessive compression and decompression of head).[6] Numerous studies have been conducted by obstetricians in institutions throughout the world to analyse the various methods of managing a breech presentation with a view to choose the most perfect method to have a successful outcome. Management of breech presentation is still a widely discussed topic.[7] Vaginal breech delivery is associated with tenfold higher risk of intrapartum fetal death as compared to vaginal cephalic delivery.[8] While some studies suggest that good neonatal outcomes in elective lower segment caesarean sections (LSCS) would undoubtedly influence decision-making regarding mode of delivery, others have demonstrated that mode of delivery doesn't affect long-term outcome even in the presence of serious short-term neonatal morbidity. [9]

Any change toward the method or technique of breech birth should attempt to enhance the perinatal result as well as maintain low rates of maternal morbidity and mortality. Rather than the mother, the fetus suffers the most. Therefore, the success of a particular strategy for the management of labour with breech presentation is determined by the fetal outcome. Present study was conducted in a tertiary care center to study the mode of delivery, perinatal outcomes in breech presentation.

METHODS

This Prospective observational study was conducted in 320 consecutive patients with breech presentation at tertiary care centre Department of Obstetrics and Gynaecology, Gandhi Medical College, Bhopal. Study was conducted in 18 months from 1 January 2021 to 31 August 2022.

Study population

Antenatal women with breech presentation reporting to the Department of Obstetrics and Gynecology, Gandhi Medical College, Bhopal.

Sample size and sampling method

All Antenatal women with breech presentation delivering in the Department of Obstetrics and Gynecology, Gandhi Medical College, Bhopal and fulfilling the inclusion criteria were included in the study.

Inclusion criteria

For assisted breech vaginal delivery

Patients with breech presentation after 28 weeks of gestation to term in labor, all Primi or multigravida with Singleton breech presentation, estimated fetal weight of more than 1.5kg less than 3.5kg evaluated and all type of breech presentation were included.

For caesarean section

Hyper extended neck of fetus in ultrasound, estimated fetal weight (more than 3.8kg) and fetal distress were included.

Exclusion criteria

Antenatal women not willing to give consent, diagnosed IUFD, APH, cephalic presentation, any other malpresentation, hypertensive disorders of pregnancy, any uterine scar and congenital foetal malformation were excluded from study.

Method of data collection

Permission from the institutional ethics committee and university clearance was obtained, Certificate no: 88/IEC/2021 Meeting and rapport building with the study participants.

All Antenatal women with breech presentation delivering in the Department of Obstetrics and Gynecology, Gandhi Medical College, Bhopal and fulfilling the inclusion criteria were included in the study. Detail history about demographic factors, presenting complaints and menstrual history, history of previous breech delivery and previous caesarean delivery with its indications were obtained.

Complete general physical examination and obstetrical examination was performed, including measurement of fundal height, abdominal girth, presentation, position, engagement of presenting part, location of fetal heart sound and uterine contractions.

Data analysis

Data was collected and entered simultaneously in statistical package for social sciences (SPSS) version 23 and coded appropriately. The data was analysed keeping in view the aim and objectives of the study. Descriptive statistics were calculated to summarize the sample characteristics in terms of frequency and percentage. Graphs and Charts were made. Analytical and inferential analysis was done. Significant was set at standard 0.05.

RESULTS

In present study it was observed that majority 141 (44.1%) of the study participants were in the age group of 21-25 years 44.1%, followed by 26-30 years 128 (40%) and (15.9%) 51 were in age group of 31-35 years (Table 1).

Table 1: Distribution of participants of breech presentation according to age.

Age	No. of participants	Percentage
21-25 years	141	44.1
26-30 years	128	40
31-35 years	51	15.9

It was found that majority of the study participants 115 (35.9%) were only studies up to primary school, 92 (28.8%) were educated up to middle school and 63 (19.7%) were educated up to high school. Only 37 (11.6%) were educated up to high secondary school and 13 (4.1%) were graduate or above (Table 2).

Table 2: Distribution of participants according to educational status.

Education	No. of participants	Percentage
Primary school	115	35.9
Middle school	92	28.8
High school	63	19.7
Higher secondary school	37	11.6
Graduate and above	13	4.1

It was observed that majority of the cases were primi (206 cases, 64.4%) and 114 cases (35.6%) were multigravida. Of 206 primi gravida females, 4 underwent vaginal breech delivery and 202 had LSCS. Among 114 multigravida females, 66 had LSCS and 48 had vaginal breech delivery (Table 3).

Table 3: Distribution of participants according to obstetric history and mode of delivery.

		Total (%)	Modes of delivery			
			Vaginal breech delivery		LSCS breech	
			Count	Column N %	Count	Column N %
Obstetric H/O	Primi Gravida	206 (64.4)	4	7.7	202	75.4
	Multi Gravida	114 (35.6)	48	92.3	66	24.6

Table 4: Distribution of participants according to gestational age and mode of delivery.

		Total (%)	Modes of delivery			
			Vaginal breech delivery		LSCS breech	
			Count	Column N %	Count	Column N %
Gestational age	Term	213 (66.6)	33	63.5	180	67.2
	Preterm	107 (33.4)	19	36.5	88	32.8

Table 5: Comparison of maternal complications according to the mode of delivery.

Maternal complications	Modes of delivery				P value
	Vaginal Breech Delivery		LSCS Breech		
	Count	Column N %	Count	Column N %	
Present	15	28.8%	32	11.9%	0.002
Absent	37	71.2%	236	88.1%	

In present study majority (213 cases, 66.6%) were term deliveries and 33.4% (107 cases) had preterm deliveries. Among 213 term deliveries, majority (180 cases) were LSCS and 33 cases were vaginal breech delivery. Among 107 preterm deliveries, 88 were born with LSCS and 19 were born with vaginal delivery (Table 4).

It was found that out of all 52 vaginal deliveries, 15 (28.8%) patients had complications. And out of all 268 LSCS, 32 (11.9%) patients had complications. Maternal complications were found to be statistically significant associated with vaginal breech delivery (p=0.02*) (Table 5).

DISCUSSION

Obstetrics has always been interested in breech deliveries. The preferred delivery strategy for breech babies has been a caesarean section. In our design, we want to determine whether vaginal breech delivery and caesarean breech delivery have different outcomes.

This observational study was done in Department of Obstetrics and Gynaecology, Gandhi Medical College, Bhopal over a period of one year (1 Jan 2021- 31 Aug 2022). All patients with singleton breech presentation after 28 weeks of gestation to term in labor. Estimated fetal weight of more than 1.5kg less than 3.5kg evaluated. After applying all inclusion and exclusion criteria, 320 study participants were enrolled.

In the present study, majority of participants with breech presentation were in age group 21 to 25 years (44.1%) followed by 26-30 years (40%) and 31-35 years (15.9%). Rana et al in their study reported that breech presentation was most common in 21-25 years age-group (44.76%) followed by 16-20 years (26.74%).[10] Similarly, Choudhary et al reported maximum breech (70.6%) in age-group 20-30 years.[11]

In the present study, approximately 64.4% were primigravida and 35.6% were multigravida. In similar studies, Panda et al, Kavita et al and Sonali et al, reported 52%, 62% and 53% primigravida. In this study, majority of primi underwent C-section (75.4%) and multigravida underwent vaginal delivery (92.3%).[12-14]

In the current study, about 83.8% participants had undergone C-section while 16.3% delivered vaginally where 14.4% were assisted and 1.9% were spontaneous. Of all the LSCS conducted, 74.63% were emergency and only 25.37% were elective. In the current study, 28.8% of those underwent vaginal delivery developed cervical tear (26.6%), PPH (20%), hematoma (20%), and febrile morbidity (33.3%). Complications seen with LSCS were PPH (43.8%), febrile morbidity (25%), inverted T incision (12.5%), wound gaping and anesthetic complications (9.4% each). In the present study, about 28.8% mothers developed complications due to vaginal deliveries while only 11.9% of LSCS developed maternal complications. Mode of delivery and occurrence of maternal complications was found to be statistically significant ($p<0.05$).

The indication for conducting LSCS were primi with breech (75%), fetal distress (10.8%), large baby head (5.6%), cephalo-pelvic disproportion (4.1%), hyperextended neck (1.9%) and footling (2.6%). Panda et al in their study reported that C-section (88.5%) were associated with PIH, oligo-hydramnios and PROM.[12] Kavita et al found similar finding of 96% delivered by caesarean section in a study though in another Nkwabong et al only 33.3% were delivered by caesarean section.[13,15] Rana et al in their study showed that primi breech was the commonest indication for caesarean section (54.32%) followed by post caesarean section breech (14.81%) and bad obstetric history (9.8%).[10]

Further, other indication for caesarean section were FPD 1.2%, foetal distress 7.4%, PIH 4.93% and placenta previa 7.4%.

This study conducted in small populations. It is needed to conduct this study in large population.

CONCLUSION

Multiparous women has better maternal and perinatal outcome compared to Primigravida with breech presentation. Zero perinatal mortality in elective caesarean section. Perinatal outcome is good in elective LSCS than in an emergency LSCS.

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