

# MODE OF DELIVERY AND PERINATAL OUTCOME IN BREECH PRESENTATION IN A TERTIARY CARE HOSPITAL- A RECORD BASED STUDY

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## ABSTRACT

**Background:** Caesarean section has increasingly been used to deliver breech presentation because of neonatal mortality and morbidity associated with vaginal delivery. Vaginal delivery is still a recommended option, especially in low-income settings where CD-associated maternal morbidity and mortality are a serious consideration.

**Objectives:** To determine the various factors, mode of delivery and to assess the perinatal outcome in breech delivery.

**Methods:** A retrospective study was conducted on 191 in pregnant women admitted to the Hospital with breech presentation after 28 weeks or more, and meeting the inclusion criteria was included in the study. All case records were obtained from medical records department and OT registers and will be analyzed with respect to age, parity, gestational age, type of breech presentation, and mode of delivery, perinatal and maternal outcome.

**Results:** In our study perinatal outcome due to breech delivery was more in assisted breech delivery, compared to Interval-Specific Congenic Strains. It was also noted that vaginal delivery with breech in multiparous women had good perinatal outcome than vaginal breech delivery in primiparous women but with active involvement of experienced obstetricians and applying appropriate management protocols for vaginal breech delivery can achieve comparable safety for the infant with cesarean section .

**Conclusion:** There is still a place for vaginal breech delivery in selected cases if breech presentation more so in multiparous women.

**Keywords:** Caesarean section, Interval-Specific Congenic Strains [ISCS], parity, gestational age, vaginal breech delivery.

## INTRODUCTION

Breech presentation is a longitudinal lie in which the podalic pole of the fetus is the presenting part. It is the commonest malpresentation with the incidence being 3-4% at term<sup>1</sup>. Various etiology of breech presentation are maternal factors being polyhydramnios, multiple pregnancy, uterine anomalies, grand multiparity etc, perinatal factors like prematurity, congenital anomalies, chromosomal abnormalities etc. placental factors like placenta previa, cornual implantation of placenta(75%)<sup>2</sup>. Among the various types of breech, Frank breech is the most frequent in about 50 – 60% of breech presentations. Clinically breech can be classified as uncomplicated breech and complicated breech when breech is associated with prematurity, placenta previa, contracted pelvis, twins etc<sup>1</sup>

Since Ancient times, Breech delivery has been recognized as an obstetrical problem. Sushruta has referred to it as a major cause of fetal death<sup>3</sup>. Various Modes of Breech delivery being Spontaneous breech delivery, Assisted breech delivery, Breech Extraction and Cesarean section. Management of breech presentation has been and still is a hotly debated issue all over the world.

The National institute of Health study reported two fold to four fold increased risk of maternal death with caesarean delivery. Significant maternal morbidity related to caesarean delivery occurs in 5 to 62% of cases(MMR)<sup>4</sup>. Publication of the Term Breech Trial (TBT) was followed by a large reduction in the incidence of planned vaginal birth.<sup>5</sup>

Although Caesarean section has increasingly been used to deliver breech presentation because of neonatal mortality and morbidity associated with vaginal delivery, Vaginal delivery is still a recommended option, especially in low-income settings where CD-associated maternal morbidity and mortality are a serious consideration<sup>6</sup>. Vaginal breech delivery is a challenge to all obstetricians ; it is a test of obstetricians experience, skill and judgement.<sup>7</sup>

### Objective

- To determine the various factors causing breech presentation
- To determine the mode of delivery in breech presentation
- To assess the perinatal outcome in breech delivery

## METHODOLOGY

A retrospective study was conducted in Department of Obstetrics and Gynecology, Mandya Institute of Medical Sciences, Mandya Karnataka. All pregnant women admitted to the Hospital with breech presentation after 28 weeks or more, during the year (May 2020 to April 2021) and meeting the inclusion criteria was included in the study. All case records will be obtained from medical records department and OT registers and will be analyzed with respect to age, parity, gestational age, type of breech presentation, and mode of delivery, perinatal and maternal outcome.

**Inclusion Criteria:** All Patients with breech presentation of more than 28 weeks of gestation, Patients with singleton breech presentation admitted for vaginal or LSCS.

**Exclusion Criteria:** All pregnancies with antepartum hemorrhage, severe preeclampsia, eclampsia, pregnancy with cephalic presentation, transverse lie, congenital malformations not compatible with life, intrauterine death, twin breech, pregnancy with less than 28 weeks of gestation.

**Data Analysis:** Collected data was entered in Microsoft excel and analyzed by using SPSS. The descriptive statistics like mean, SD, percentage etc and inferential statistics chi square test, to know the association t- test, to know the difference between mean for quantitative data, for categorical data other suitable statistical test was applied, the 1,0 s 5% is considered significant ( $p < 0.05$ ).

## RESULTS

According to the study most of the patients fall in the group of 21- 25 years with an incidence of 48% as the reproductive age group falls in this group. [Table 1]

Out of 191 cases studied 80 were primi gravida with breech presentation giving an incidence of 42% and 71 were gravida 2 giving an incidence of 37% and 21 were gravida 3 and above with an incidence of 21%. [Table 2]

According to the above table majority of the patients were more than 37 weeks in both primi gravida with an incidence of 90% and multi gravida with an incidence of 96%. [Table 3]

According to above table in this study among the primi gravida extended breech was more common with an overall incidence of 60% were as among multi gravida patients complete breech was more common with an incidence of 66.6%. There were no footling presentations in this study. [Table 4]

According to the above table, among the 80 cases of primi majority of the cases had cesaerean section with an incidence of 63% and 30 cases had assisted breech delivery with an incidence of 37%. Among the multi gravida majority had cesaerean section with an incidence of 76% and assisted breech delivery with an incidence of 24%. [Table 5]

According to the above table emergency cesaerean section was more common than elective cesaerean with an incidence of 84% and 16% respectively. As most of the cases in emergency group were undiagnosed and referred late in labor from peripheral centers. [Table 6]

According to the above table most common indication for LSCS among the primi was breech presentation with 42 cases with an incidence of 84%, 7 cases had fetal distress with an incidence of 14%. Fetal distress was diagnosed on the basis of fetal bradycardia in 5 cases and prom with meconium stained liquor in 2 cases and 1 case was of elderly primi with breech presentation with an incidence of 2%. [Table 7]

According to the above table previous LSCS and fetal distress were most common indications for cesaerean section among the multi gravida with 28 cases, 18 cases giving an incidence of 34% and 21% respectively. Fetal distress was diagnosed on the basis of fetal bradycardia. 14 cases had previous 2 LSCS with an incidence of 17%. Other indications were complete breech and large baby with 10 and 8 cases respectively. [Table 8]

According to the above table 4 cases out of 57 vaginal deliveries, difficulty in delivery of the after coming head was experienced with an incidence of 7%. [Table 9]

According to the above table perinatal outcome was good in majority of the patient in both extended and complete breech with an incidence of 94% and 92% respectively. Unsatisfactory outcome was more common in complete breech with an incidence of 7% because of low APGAR, LBW and IUGR babies and all of them were shifted to NICU. 2 perinatal deaths were as result of intra partum asphyxia due to difficulty in delivery of the after coming head in both extended and complete breech, both cases came in second stage due to late referral and undiagnosed breech at the peripheral health centers. [Table 10]

In this study the perinatal outcome was good in LSCS with an incidence of 94%, 3 cases in assisted breech delivery and 8 cases in cesarean section had low APGAR at the end of 5 minutes. All the 11 babies were shifted to NICU out of which 1 baby died on post natal day 6 due to prematurity and RDS with birth weight of 1.7kg, out of the other 10 babies 7 were IUGR babies which were shifted back to mother side upon good recovery. [Table 11]

It was observed that the perinatal outcome was more unsatisfactory when the birth weight was 1.5 to 2 kg with an incidence of 17% .Perinatal loss was also more in birth weight of 1.5 to 2 kg. [Table 12]

## DISCUSSION

In this study, 191 cases of pregnant women randomly selected with breech presentation who attended the labor room during the period of May 2020 to April 2021 in the same institute. Detailed analysis done using parturition register and case sheets, and results have been compared with statistics available from other authors. The incidence in breech delivery was comparable to the incidences found by Kerning K. H, Bhang B. T. incidence was 2.92%. In the present study the maximum incidence was observed in the age group between 21 – 25 years which was 48%.which is correlated to study done by Igwebo et al incidence was 52% in the same age group. The incidence of complete breech in our study was 55.5%, extended breech was 44.5%. Our study compared to study done by Karning K.H and Bhanu B.T. in their study incidence of complete breech and incomplete breech. We had more multiparous women in our study and the incidence of complete breech is more in multiparous. Present study correlates with the study done by other authors as it shows perinatal mortality is high in assisted breech delivery.

A study was conducted to determine the decreased risk of adverse perinatal outcome with a policy of planned caesarean in the term breech trial was due to reduction of problems of labour, delivery or unrelated problems. A randomized controlled trial of planned caesarean versus planned vaginal delivery for the singleton fetus with breech presentation at term. Planned caesarean delivery was associated with a lower risk of adverse perinatal outcome.<sup>7</sup>

A study was conducted a prospective study was conducted to describe the neonatal outcome according to the planned mode of delivery for term breech births in two countries. The study population consisted of 8105 pregnant women delivering singleton fetuses in breech at term in 138 French and 36 Belgian maternity units. Cesarean delivery was planned for 5579 women (68.8%) and vaginal delivery for 2526 (31.2%). Of the women with planned vaginal delivery 1796 delivered virginally (71%).the rate of the overall population. It did not differ significantly between planned vaginal and cesarean group. It was included that in places where planned vaginal delivery is a common practice and strict criteria are met before and during labour, planned vaginal delivery of a singleton fetus in breech presentation at term is a safe option that can be offered.<sup>8</sup>

A randomized trial was conducted by TBT group to compare a policy of planned cesarean section with a policy of planned caesarean section with a planned vaginal birth for selected breech – presentation pregnancies.2088 women with a singleton fetus in a frank or complete breech presentation were randomly assigned planned vaginal or planned cesarean delivery. Mothers and infants were followed up for 6 weeks postpartum. It was concluded that perinatal mortality or neonatal mortality was significantly lower for planned cesarean section group than for planned vaginal birth.<sup>9</sup>

## CONCLUSION

In our study perinatal outcome due to breech delivery was more in assisted breech delivery, compared to interval-Specific Congenic Strains. It was also noted that vaginal delivery with breech in multiparous women had good perinatal outcome than vaginal breech delivery in primiparous women but with active involvement of experienced obstetricians and applying appropriate management protocols for vaginal breech delivery can achieve comparable safety for the infant with cesarean section. There is still a place for vaginal breech delivery in selected cases if breech presentation more so in multiparous women.

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**TABLES**

Table 1: Incidence of breech presentation according to age

AGE IN YEARS	N=191	%
<20	14	8
21-25	92	48
26-30	61	32
31-35	17	9
>36	7	3

Table 2: Incidence of breech presentation according to parity

PARITY	N=191	%
Primi	80	42
G <sub>2</sub>	71	37
G <sub>3</sub> and above	40	21

Table no 3: Relationship of gestational age in relation to parity

Gestational Age In Weeks	Primi (80)		Multi (111)		Total (191)	
	No.	%	No.	%	No.	%
30-34	5	6.3	2	2	7	3.6
35-37	3	3.7	2	2	5	2.4
>37	72	90	107	96	171	94

Table no 4: Relationship of type of breech according to parity.

Type Of Breech	Primi (80)		Multi (111)		Total (191)	
	No.	%	No.	%	No.	%
Complete	32	40	74	66.6	106	55.5
Extended	48	60	37	33.4	85	44.5

Table no 5: incidence of mode of delivery.

Type of delivery	Primi(80)		Multi(111)		Total(191)	
	No.	%	No.	%	No.	%
Assisted breech delivery	30	37	27	24	57	30
Cesaerean section	50	63	84	76	134	70

Table no 6: incidence of elective and emergency cesaerean section.

Incidence	Number	Percentage
Elective	22	16
Emergency	112	84
Total	134	

Table no 7: indication for cesaerean section among the primi (50)

Indications	No of cases	Percentage
Primi with breech	42	84
Fetal distress	7	14
Elderly primi	1	2

Table no 8: indications for cesaerean section among the multi gravida (84)

Indications	No of cases	Percentage
Previous LSCS	28	34
Fetal distress	18	21
Previous 2 LSCS	14	17
Complete breech	10	12
Large baby	8	9
Placenta previa	6	7

Table no 9: incidence of difficulty during vaginal delivery of babies.

Total no of cases	No of cases with difficulty	Percentage
57	4	7

Table no 10: relation of perinatal outcome to type of breech.

Type of breech	No of cases	Perinatal outcome		
		Good	Low apgar	Died
Extended	85	80	4	1
Percent		94	5	1
Complete	106	98	7	1
PERCENT		92	7	1

Table no 11: perinatal outcome in relation to mode of delivery.

Mode of delivery	No of cases	Good	Unsatisfactory	Died
Assisted breech delivery	57	52	3	2
Percent		91	5	4
Lscs for breech	134	126	8	0
Percent		94	6	0

Table no 12: perinatal outcome in relation to birth weight.

Weight in gms	No of babies	Good	Low apgar	Died
1501-2000	17	12	3	2
Percent		7	17	12
2001-2500	30	28	2	
Percent		93	7	
2501-3000	77	77		
Percent		100		
3000-3500	33	33		
Percent		100		

>3500	7	7		
Percent		100		