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Correlation of perinatal outcome with mode of delivery for singleton breech presentation

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Abstract

Background: The intense obstetric controversy that breech presentation has generated still continues. Vaginal delivery of the breech was the norm until the late 1950s, when caesarean section was first recommended on the routine basis.

A steadily increasing number of obstetricians are following the advice of Wright who proposed in 1959 that all breech presentation should be delivered by caesarean section.

The recent publication of the Term Breech Trial by Hannah *et al.* (2000) is likely to place planned vaginal breech delivery in the pages of history in the developed world.

In places where planned vaginal delivery is a common practice and when strict criteria are met before and during labour, planned vaginal delivery of singleton fetus in breech presentation at term remains a safe option that can be offered.

Aim

1. To determine the perinatal outcome of singleton breech presentation of different gestational age in relation to the mode of delivery.
2. To study the factors favouring the vaginal breech delivery.
3. To correlate perinatal outcome with gestational age, birth weight, APGAR score in neonates delivered by vaginal delivery.
4. To study the factors associated with breech presentation.

Materials & Methods: This study was conducted at a Hospital, Chennai, from Aug 20017 to July 2018. 220 cases of singleton breech presentation confirmed by clinical examination and ultrasound were selected for this study.

Results

1. Incidence of breech presentation in Institute during my study was 2.59%.
2. The incidence of vaginal breech delivery was 26.1%.

Conclusion

1. When strict selection criteria like multigravida, frank breech presentation, term gestation, estimated foetal weight more than or equal to 2 kg to 3 kg are met, planned vaginal delivery of singleton breech presentation remains a safe option that can be offered.
2. In preterm breech with 35-37 weeks gestation, caesarean section offers a better perinatal outcome.

Keywords: Singleton breech, perinatal outcome

Introduction

The intense obstetric controversy that breech presentation has generated still continues. Vaginal delivery of the breech was the norm until the late 1950s, when caesarean section was first recommended on the routine basis.

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Materials & Methods

This study was conducted at a Hospital, Chennai, from Aug 20017 to July 2018. 220 cases of singleton breech presentation confirmed by clinical examination and ultrasound were selected for this study.

Exclusion Criteria

- Multiple gestation

- Intrauterine death
- Congenital anomaly

Name, age, unit, registration number and address of the patients were noted. Detailed obstetric history was elicited. Details of the present pregnancy indicated the date of last menstrual period. Details of scan reports, clinical examination finding if available were scrutinized. The time of admission was noted down. In this study patients who got admitted in active phase of labour were allowed for vaginal breech delivery.

A per abdomen examination was done to assess the presentation, and position of the fetus. Estimated foetal weight was calculated.

Results: was results and analysis

Table 1: Incidence of Breech Presentation

Total number of deliveries	Total number of Breech	Incidence
17350	460	2.65%

In my study among the total cases of singleton breech presentation, anomalous fetuses and intrauterine death were excluded.

19 cases of foetal anomaly were found that accounts for 3.8% of

cases.

The total number of intrauterine death was 18 cases which accounts for 3.6% of cases.

Table 2: Perinatal outcome in relation to mode of delivery

Mode of delivery	cases	%	Perinatal mortality	%	Morbidity	%
Vaginal delivery	120	26.00	23	19.1	13	10.8
Caesarean section	340	74	1	0.3	0	0

P value=0.01

Among the vaginal breech deliveries assisted breech delivery was the mode of delivery in all cases studied except one which delivered by breech extraction. Breech extraction was done under IV sedation for IUD breech who had previous 2 LSCS / Diabetes /cellulitis of lower limb.

-VBAC was conducted in one case (who was admitted well in

labour) alive /girl/2.6 kg. of those delivered by caesarean section 13.1% elective deliveries mostly done for primi-breech or previous lower section caesarean section (LSCS) with breech.

My study shows that perinatal mortality and morbidity is significantly increased in the vaginal delivery group (P value=0.01).

Table 3: Gravidity

Gravidity	Number of cases	vaginal delivery				Caesarean section			
		Cases	%	Perinatal mortality	%	Cases	%	Perinatal mortality	%
Primigravida	259	51	19.7	15	29.4	208	45.2	0	0
multigravida	201	69	34.3	8	11.6	132	28.7	1	0.8

P value=0.02

In primi gravida the incidence of vaginal delivery was 19.7% whereas in multi gravida the incidence was 34.3%.This shows that parity is a significant factor influencing the mode of delivery.

Among the primi gravida who delivered vaginally 60% were

preterm deliveries which accounted for a high perinatal mortality.

The difference in perinatal mortality among primi gravida is due to preterm deliveries.

Table 4: Type of Breech

Total cases	Type of breech	Vaginal				Caesarean section			
		Cases	%	Perinatal mortality	%	Cases	%	Perinatal mortality	%
382	Frank	116	30.3	22	19	266	69.6	1	0.38
64	Complete	2	3.13	0	0	62	96.9	0	0
14	Incomplete	2	15.4	1	50	12	84.6	0	0

P value=0.15

This table shows that the type of breech was significant in affecting the mode of delivery (P Value=0.15). In frank Breech the incidence of vaginal delivery was highest - 30.3% where as

in non- frank breech the incidence was 5%.

Type of breech is a significant factor affecting the mode of delivery.

Table 5: Perinatal outcome in relation to gestational age

Gestational age (weeks)	Total Cases	Vaginal				Caesarean section			
		Cases	%	Perinatal mortality	%	Cases	%	Perinatal mortality	%
28-32	10	10	100	8	80	0	0	0	0
33-34	27	26	96.3	8	30.8	1	3.7	0	0
35-37	43	20	46.5	3	15	23	53.6	0	0
>37	380	64	16.8	4	6.3	316	83.1	1	0.32

P value=0.002

In infants born before 32 weeks of gestation all were allowed for vaginal delivery and the perinatal mortality was highest in this group (80% of perinatal mortality). In 33 to 34 weeks gestation the vaginal delivery rate was 96.3%. In this group the perinatal mortality was high 30.8%. In this group caesarean section was done for one case the indication being Elderly Primi/Breech with oligohydramnios alive boy kg with good perinatal outcome. In the gestational age group of 35 to 37 weeks the perinatal mortality rate of vaginally delivered neonates was 15% whereas

the perinatal mortality in caesarean delivery was nil.

In the gestational age group of more than 37 weeks, the perinatal mortality of vaginally delivered neonates was 6.3% whereas the perinatal mortality in caesarean delivery was 0.32%.

In all the gestational age groups, caesarean delivery scores over vaginal delivery with a better perinatal outcome.

This shows that gestational age is a significant factor deciding the perinatal outcome (P Value=0.002).

Table 6: Perinatal outcome in relation to Birth Weight

Birth weight (Kg)	Total cases	Vaginal delivery				Caesarean section			
		Cases	%	Perinatal mortality	%	Cases	%	Perinatal mortality	%
1-1.4	24	24	100	14	58.3	0	0	0	0
1.5-1.9	40	28	70	6	21.4	12	30	0	0
2-2.4	92	35	38	3	8.6	57	62	1	1.75
2.5-2.9	184	25	13.6	0	0	159	86.4	0	0
3-3.4	104	7	6.7	0	0	91	93.3	0	0
3.5-3.9	22	1	4.6	0	0	21	95.5	0	0
>3.9	2	0	0	0	0	2	100	0	0

P value=0.001

The perinatal mortality was highest in birth weight range of 1 to 1.4 kg. In this group all had vaginal breech deliveries.

In cases with birth weight more than 2 kg, the incidence of assisted breech delivery was 16.5% and the perinatal mortality was 4.4% which is comparable to the perinatal mortality in non breech presentation.

This table shows that birth weight is a significant factor in deciding the perinatal mortality (P value=0.001).

Summary

1. Incidence of breech presentation in our Institute during my study was 2.59%.
2. The incidence of vaginal breech delivery was 26.1%.
3. Perinatal mortality rate in vaginally delivered infants 19.7%.
4. The mortality rate was significantly higher in vaginally delivered group. (p value= 0.01)
5. Gravity is a significant factor affecting the perinatal outcome. (p value =0.02)
6. Frank breech presentation is a favourable factor for vaginal breech delivery.
7. Type of Breech influences the mode of delivery. But not the perinatal mortality. (p value=0.15)
8. The intrapartum complication like cord prolapse are higher in non frank breech.
9. For term infants the incidence of vaginal breech delivery is 16.8% and in this group the perinatal mortality was 6.3% which was comparable to the vertex presentation.
10. In infants with Birth weight ≥ 2 kg incidence of vaginal breech delivery was 16.5% and perinatal mortality was 4.4% which is comparable to the Vertex presentation.
11. Birth weight is a significant factor deciding perinatal outcome (p value 0.001).

12. Patients admitted in active stage of labour (49.7%) had vaginal delivery.

13. The perinatal mortality rate in singleton breech presentation was 9.1%.

14. In 33.3% of cases birth asphyxia was the cause of death.

15. Prematurity accounts for 70.8% of perinatal mortality.

Conclusion

- When strict selection criteria like multigravida, frank breech presentation, term gestation, estimated foetal weight more than or equal to 2 kg to 3 kg are met, planned vaginal delivery of singleton breech presentation remains a safe option that can be offered.
- In preterm breech with 35-37 weeks gestation, caesarean section offers a better perinatal outcome.

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