

Incidence, Mode of Delivery and Apgar Score in Breech Presentation

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A study was carried out at services Hospital Lahore affiliated with postgraduate medical institute Lahore, to find out incidence, mode of delivery and apgar score in breech presentation. There were total 2432 deliveries of all types during the period of study and out of these 130 were full term breech deliveries, accounting for an incidence of 5.3%. Two groups were formed, Group A and Group B. group. Group A comprised of full term primigravidas with breech presentation and total number of patients was 55. Group B comprised of full term multigravidas with breech presentation and total number of patients was 75. In Group A 45 (81%) patients were delivered vaginally and Group B 60 patients (80%) were delivered vaginally. Incidence of non-elective caesarean section in Group A and B was 7.2% and 6% respectively. Total rate of elective caesarean section was 19%. Morbidity in Group A was 2% and Group B was 3.5%. There were no fetal complications. A trend of higher 5 minutes apgar score was positively seen in 100% infants. Caesarean section group was fewer lower apgar infants than groups delivered virginally.

Key words: vaginal breech delivery.

Breech is the commonest form of malpresentation seen before term. Breech presentation occurs when fetal buttocks or lower extremities present into the maternal pelvis. Incidence of breech presentation is just over 2%. 30 to 40% of singletons present as breech between 20 to 25 weeks and 15% at 32 weeks, but by 34 weeks most have gone spontaneous version to a head presentation. Breech can be grouped into extended, flexed and footling breech.

In patients who reached term with breech presentation, cause must be found out. Main causes are multiple pregnancy, oligohydramnios, abnormalities in uterine shapes, placenta previa, hydrocephalus, polyhydramnios, intrauterine death, tumours of genital tract, congenital and chromosomal abnormalities of the fetus.

The diagnosis of breech presentation is made during pregnancy on abdominal palpation and auscultation. Ultra sound is done to conform the diagnosis and to exclude fetal malformation, placenta previa, degree of flexion and extension of head and abdominal tumours.

Breech can be managed by external cephalic version, trial of vaginal delivery and caesarean section. External cephalic version done at 37 weeks after ruling out its contraindications. For vaginal delivery the weight of the fetus, clinical assessment of pelvis and X-ray pelvimetry are the mainstay for maternal assessment. For vaginal delivery frank breech is relatively safer if pelvis is adequate. Where fetus presents by breech, abdominal delivery should be considered in the presence of another obstetrical problem. A thorough search of any other complication, actual or anticipated has become deciding factor for managing breech presentation.

Material and Methods

This study was carried out at Services Hospital affiliated with postgraduate medical institute Lahore, from February 97 to February 98. During this period 2432 deliveries were conducted, 130 were full term breech deliveries. Incidence

is 5.3%. After admission patients were evaluated thoroughly by taking history, doing clinical examination and X-ray pelvimetry. All fetal parameters were checked by ultrasound.

Protocol for vaginal delivery

1. Weight of the fetus should be less than 3.5 kilograms and greater than 2 kilograms.
2. Maternal pelvis should be adequate. All the diameters of the pelvis should be greater than 11 cm each.
3. Head of the fetus should not be deflexed.
4. It should not be footling breech.
5. There should not be any other associated obstetrical problem.

Vaginal delivery is conducted if there is no contraindication to trial of labor. Labor is strictly monitored and first stage is not allowed to go beyond 10 hours.

Indications for caesarean section

1. Large fetus, wt. More than 3.5 kg.
2. Contracted pelvis, any diameter less than 11 cm.
3. Hyperextended head.
4. Conceived after a long treatment of infertility.
5. Elderly primigravidas.
6. Bad obstetrical history.
7. Pelvic tumours.
8. Breech associated with any other obstetrical problem

All breech deliveries were conducted under vigilant supervision of experienced obstetricians, anesthetist and padeiatricians.

Results

The management and outcome of 130 cases of singleton breech presentation at term admitted in Gynae unit 1, Services Hospital, Lahore during one year from Feb 1997 to Feb 1998 is reported. Both the vaginal and abdominal routes of delivery resulted in almost the same foetal and maternal outcome. Elective caesarean section rate in primigravida group was 10.9% and in multigravida group

was 13%. Caesarean section was performed when virginal delivery failed in 4 cases (7.2%) of primigravida group and in 5 cases (6%) 1 multigravida group. Vaginal delivery was conducted in 45 cases (81%) of primigravida group and in 60 cases (80%) in multigravida group. Caesarean section was thus done in 25 cases (19%) and vaginal delivery was conducted in 105 cases.

It is obvious from our study that the use of selective management protocol under controlled conditions is a reasonable alternative to elective caesarean section and based on the data of this study it seems reasonable to allow vaginal delivery in carefully selective cases of term singleton breech presentation.

Table 1. Incidence

Total deliveries	Vertex %	Breech	Incidence
2432	2302=94%	130	5.3%

Majority (60%) of them had no antenatal care and were examined and admitted from out patient department or were admitted directly into the labour room, for the first time during the present pregnancy. Only (40%) were booked and had proper antenatal care, complete investigations and assessment prior to term.

Routine investigations and essential procedures regarding the diagnosis, type of breech, stage of labour, maternal and foetal state were assessed and the mode of the delivery was decided on the merits of the case.

Analgesia in the form of Inj pethidine 100 mg inj Promethazine 25 mg i/m was the usual methods adopted. In cases where forces were applied, pudendal block along with local infiltration with 1% xylocaine was used. Epidural analgesia was also available.

Forceps were applied to the after coming head of both groups mentioned later. The third stage was managed actively following the administration of oxytocin.

Table-2

Total Breech	Vaginal Delivery	Caesarean section
130	70(53.8%)	60(46.15%)

After selecting the patients they were grouped under following categories.

Group A

Full term primigravida with breech presentation. It also included the following sub groups.

1. Patients delivered by caesarean section.
2. Patients delivered vaginally.
3. Patients delivered by caesarean section when vaginal delivery failed.

Group B

Full term multigravida with singleton breech. It included the following sub groups.

1. Caesarean section with definite indication.

2. Patients vaginally delivered.

3. Caesarean section when vaginal delivery failed.

Parameters of the study (Parity, age, booking status, ultrasound findings, foetus weight, associated diseases of the mother, indication of caesarean section, maternal & foetal out come) were chosen in order to highlight various facets of the management of breech delivery. Apgar scores were assessed primarily by the paediatrician and birth trauma by the obstetrician.

Table-3

Type of patients	Total Number of cases	Elective Caesarean section	Caesarean section when vaginal delivery failed	No. of vaginal deliveries
Group A				
Primigravida	55=42.30%	6=10.9%	4=7.2%	45=81%
Group B				
Multigravida	75=57%	10=30%	5=6%	60=80%
Group A + B	130	16=12%	9=7%	105=80%
			Caesarean section	
			16+9=25=19%	

The above table lists the number of breech infants born during the period of study.

Caesarean section was performed in 25 cases (19%) which amount to 10=18% and 15=19% in primigravida and multigravida. Vaginal delivery in each group following the adoption of criteria for allowing vaginal breech delivery was done in 45 primigravida cases (81%) and in 60 multigravida cases (80%). Thus the overall percentage of caesarean section and that of vaginal breech delivery was 19.1% and 80% which is in agreement with the recommendations and findings of Leon and Gallant (1979), Dephen Gleicher (1986), Gibson (1990).

Indications for caesarean section

Table 4 shows the indication for elective caesarean section in both groups of study

In group A, 4 patients who were initially prepared to be delivered vaginally, were eventually delivered by caesarean cases because 2 of them showed foetal distress and in 2 cases there was no process of labour in the first stage.

In group B, 5 patients were delivered abdominally because of the same indications mentioned above. Three of them were operated, as there was foetal distress and rest of the 2 were operated for fail progress of labour.

The incidence of the non-elective caesarean section in group A & B I the study was 7.2% and 6% respectively and total rate was 7% out of 130 cases. The most common cause was foetal distress and then non progress of labour. These findings are in correlation with those of Bingham et al (1987) in their analysis based on intended method of delivery for mature selected breech presentation.

Incidence, Mode of Delivery and Apgar Score

Table 4

Indications	Group A Primigravida		Group B Multigravida	
	Elective Caesarean Section	Caesarean Sec. when vag. Delivery failed	Elective Caesarean Section	Caesarean Sec. when vag. Delivery failed
Placenta praevia	1	-	1	-
Pre-eclampsia	1	-	1	-
Diabetes	-	-	1	-
Big/Large baby	2	-	2	-
High Breech	-	-	-	-
Hyper extended head	-	-	-	-
Fetal Distress	2	2	2	3
Prolapse of cord	-	-	-	-
Previous C-section	-	-	2	-
Non progress of labour	-	2	1	2

Table 5

Maternal Outcome	Group A Primigravida			Group B Multigravida		
	Elective Caesarean Section	Caesarean Sec. When vag. Delivery failed	Vaginal Delivery	Elective Caesarean Section	Caesarean Sec. when vag. delivery failed	Vaginal Delivery
Normal	6	4	44	10	5	58
Morbidity	-	-	1*	-	-	1*
Mortality	-	-	-	-	-	-

*: Postpartum haemorrhage due to abruption of placenta.

Maternal outcome

The above table shows the maternal outcome. The critical analysis of the study shows that there was no maternal mortality in any group.

Maternal morbidity in the form of postpartum haemorrhage due to abruption placenta was seen in group A & B. It was managed by giving two units of blood

transfusion along with syntocinon and showed uneventful recovery.

As the total rate of elective caesarean section in our study was only 19% there was consequently a significant decrease in the inherent maternal morbidity associated with vaginal breech deliveries in group A 2% and in group B 3.5%. These findings are similar to the findings of Bowes at 1979. Which were of 3-4% maternal morbidity.

Table 6

Foetal Outcome	Group A Primigravida			Group B Multigravida		
	Elective Caesarean Section	Caesarean Sec. when vag. delivery failed	Vaginal Delivery	Elective Caesarean Section	Caesarean Sec. When vag. delivery failed	Vaginal Delivery
1. Normal live birth	5	4	40	7	4	50
<i>Apgar score</i>						
a. 1 minute upto 5	1	-	5	1	-	10
From 6-7	2	1	10	4	1	15
From 8-10	2	3	25	2	3	25
b. 1 minute upto 5	-	-	-	-	-	-
From 6-7	-	-	-	-	-	-
From 8-10	-	-	-	-	-	-
2. Perinatal mortality	-	-	5	3	1	10
a. Fresh still birth	1	-	3	1	-	5
b. Macerated birth	-	-	2	2	-	4
c. Neonatal death	-	-	-	-	1	1

Feotal outcome

Table 6 lists the immediate delivery outcome, apgar score and breech perinatal mortality. There was no fetal complication in either group. No significant difference in Apgar scores could be found between the vaginal delivery and caesarean section sub groups of both primigravida and multigravida. A trend of higher 5 minutes apgar scores was positively seen in 100% infants of Group A and Group B. The apgar analysis showed that the caesarean section group had fewer lower apgar infants than groups delivered vaginally in both primigravida and multigravida, finding which is in accord with that J.V.Collea et al 1977.

Discussion

It is evident that the statistical data of our study are in general agreement with those reported from other recent large series of breech presentation. Although absolute comparison are difficult as the number of patients, predelivery variables, methods of study and projection of problems differ in different studies, series or countries.

The evolution of the protocol, as cited by Kerr, had a historical basis. The summation of these principles has resulted in a modern approach to the breech foetus in labour ML Giomvsky et al (1982). Prevention of neonatal mortality is the primary object to be achieved by caesarean section for the term breech infant. The selective management protocol and the primary indications for elective caesarean section in singleton breech presentation at term as adopted in this study has significantly lowered the rate of caesarean section to 19%. This out come of the study is in full accord with the experience of Green et al 1982, Effer et al 1983 as cited by Stephen & Gleicher 1986.

During one year 646 caesarean section 26.5% were performed out of which only 25 (3.8%) caesarean section were for breech deliveries. The basic object of this approach was to minimize the risk to the mother and maximize the benefits to the foetus for breech deliveries (ML Gimovsky et al 1989). In the present study there was no maternal mortality in any group. The maternal morbidity was 1% in Group A and 2% in Group B as compared to reported morbidity rate of 3-4% (Bowes et al 1979).

In our study, no major foetal complications were observed in either group. Though a higher 5 minute apgar score was seen in all infants of group A and Group B.

Infants delivered abdominally had some what apgar scores as compared to those delivered vaginally in both the study groups - a finding which is in accordance with J.V.Collea et al 1977, Lynn Brown et al 1994.

The balance between maternal and foetal morbidity and mortality must remain an individual assessment and the overall picture of maternal and foetal out come in our

study has high lighted this profile.

Progress of labour was considered the most important criteria for vaginal delivery in our study groups as was the policy of E.Confino et al 1985 in their study, and the presence of other obstetric pathology often necessitated the decision to perform caesarean section in 9 patients of our selected groups for vaginal breech deliveries. Similar was the experience of Cox et al 1982.

Conclusion

Perinatal mortality and morbidity are inherently increased in breech deliveries. The increased perinatal mortality is largely due to a higher incidence of congenital malformations, intrauterine deaths prior to the onset of labour and complications of prematurely the adoption of selected management protocol and consideration of primary indications of caesarean section of the delivery of singleton breech presentation appears highly scientific approach in the management of such cases in minimizing the risk to the mother and providing maximum benefit to the foetus. Similarly, with proper selection and supervision the out come for the terms breech presentation delivered by caesarean selection. The trend thus, for the routine performance of caesarean selection for breech presentation at term are totally unjustified.

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