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Research Paper

# Outcome of Breech Deliveries in Nulliparous Women at Tertiary Care Centre

Medical Science

**KEYWORDS :** Breech delivery, Vaginal breech delivery, cesarean section, Apgar score.

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## ABSTRACT

*Objective : To evaluate breech delivery so as to determine prognostic factors for an unsafe vaginal delivery(VD) in nulliparous women.*

*Methods : This retrospective study was carried out in the S.C.L. General Hospital from April 2010 to March 2013.230 Nulliparous women with singleton breech presentation and normal fetal heart rate at a gestational age ≥ 32 weeks were reviewed with a trial of VD ordered in 184. The parameters recorded were mother's age, mode of delivery, birth weight, 5th minute Apgar scores, neonatal outcome and use of episiotomy.*

*Results : The results showed that 128(69.56%) had a successful VD. Failure of VD or poor Apgar score after VD observed if fetal weight ≥ 3,500gms or ≤ 1,800gms, footling breech, maternal age > 28, post term and rigid cervix.*

*Conclusion : Elective cesarean section should be systemic if the unsafe circumstances above mentioned are present.*

**Introduction**

Breech delivery is associated with adverse fetal outcomes during pregnancy, labour, delivery and the post partum period [1-3]. Such adverse outcomes are more frequent among nulliparous than among multiparous women [2,4,5]. It is for this reason that some obstetrician opt for routine routine cesarean section in all cases of breech presentation among nulliparous women [6]. Such an approach could not become universally acceptable because the cost of cesarean section in developing countries is not affordable by all pregnant women. Moreover, cesarean section is associated non negligible maternal morbidity. For these reasons, therefore, trial of vaginal delivery(VD) could be offered in some nulliparous women with fetus in breech presentation.

**Aim :**

To evaluate nulliparous VBD, so as to determine prognostic factors for an unsafe VBD and to recommend elective cesarean section for those cases.

**Materials and methods :**

This was a retrospective study from April 2010 to March 2013. The selection criteria were gestational age ≥ 32 weeks (validated by ultrasound examination performed before 20 weeks gestation) as calculated from last menstrual period, a singleton with breech presentation and normal fetal heart beats in nulliparous women.

**Inclusion Criteria :**

1. Adequate pelvis
2. Frank or complete breech
3. Estimated fetal weight < 3,500gms.
4. No other obstetric complication.

All women were monitored closely : fetal heart rates, blood pressure as in partogram in active phase. Cases of dynamic dystocia without underlying factors like uterine fibroids were augmented with oxytocin as it has been recommended by some authors[7].Vaginal examination was performed every 2 hourly.

Emergency cesarean section were performed in cases of failed attempts at VBD, such as poor progress, acute fetal distress and cord prolapsed. Neonatal well being was evaluated using the Apgar score.

The following data were collected in each case : mother's age, gestational age, mode of delivery, birth weight, Apgar scores at 5th minute, maternal outcome, use of episiotomy( in cases of VBD).

**Results :**

During the 3 years study period, there were 10782 deliveries conducted. Out of 2930 nulliparous women there were 353 cases of breech presentation, an incidence of 3.27%.

A total of 230 women met our inclusion criteria and were delivered either by VBD or by C.S. Mean age of this study population was 23.3 ± 5.2 years, with a range from 15-38 years. The gestational age ranged from 32 to 43 weeks with a mean of 38.6 ± 2.9 weeks.

The breech was frank in 112(48.69%), complete in 96(41.73%) and footling in 22(9.56%) cases.

Of the 230 cases selected,184 were offered VBD trial and 128(69.56%) of them had a successful VBD.

VBD occurred in 111(60.32%) women without episiotomy and in 83(39.68%) women had large mediolateral episiotomy.

Fetal birth weights ranged from 1,310 to 3,800 gms with a mean of 2,680 ± 710 gms.

Fetal weight was higher in the group delivered by cesarean section (P<0.05).

**Table 1 : Distribution of birth weight groups by route of delivery.**

| Birth weight (gms) | VBD No.(%) | CS No.(%) | Total No.(%) |
|---|---|---|---|
| 1,500-1,999 | 15(11.71%) | 5(4.9%) | 20(8.69%) |
| 2,000-2,499 | 57(44.53%) | 12(11.76%) | 69(30%) |
| 2,500-2999 | 48(37.5%) | 23(22.54%) | 71(30.86%) |
| 3,000-3499 | 7(5.4%) | 37(36.27%) | 44(19.13%) |
| 3500-3999 | 1(0.78%) | 25(24.5%) | 26(11.3%) |
| Total | 128 | 102 | 230 |

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**Table 2 : Indications and types of cesarean section in breech presentation.**

| Indications | Elective CS No.(%) | Emergency CS No.(%) |
|---|---|---|
| Fetal weight ≥ 3,500gms | 21(45.65%) | - |
| Stationary labour | - | 13(23.21%) |
| Maternal age > 32 years | 13(28.26%) | - |
| Acute Fetal distress(AFD) | - | 38(67.85%) |
| Cord Prolapse | - | 5(8.9%) |
| Footling Breech Presentation | 12(26.08%) | - |
| Total | 46(45.09%) | 56(54.91%) |

There were 102 cesarean deliveries, of which 46(45.09%) were elective and 56(54.91%) were in emergencies.

The main indication for emergency CS was fetal distress with 38(67.85%) cases.

The main indication for elective CS was birth weight ≥ 3,500gms with 21(45.65%) cases.

A total of 12(9.3%) neonates out of 128 had poor Apgar score(<7) at the 5th minute of birth. Among those who had and elective CS, none had poor Apgar score at the 5th minute. However, among those who had an emergency CS, 4(7.14%) neonates had a poor Apgar score at the 5th minute. The indication for the emergency CS in these four cases was AFD, one in 35 years old patient carrying a fetus 3,200gms, others had cord prolapsed.

There was a statistically significant difference in mean 5th minute Apgar score between the group of elective and emergency CS.($P<0.05$) (Table 3)

**Table 3 : Distribution of Apgar score at the 5th minute by route of delivery.**

| Apgar score at $5^{th}$ min. | VBD No. (%) | Elective CS No.(%) | Emergency CS No.(%) | Total No.(%) |
|---|---|---|---|---|
| <7 | 12 (9.3%) | 0(0) | 4 (7.14%) | 16 (6.96%) |
| ≥7 | 116 (90.6%) | 46 (100%) | 52 (92.86%) | 214 (93.4%) |
| Total | 128 | 46 | 56 | 230 |

Three congenital abnormalities in fetuses with breech presentation were observed in the population under study. 2 anencephaly and 1 hydrocephalus are delivered by vaginally with birth weight of 2200gms, 2000gms and 2900gms respectively.

There were brachial plexus injuries in 2 cases and fracture of humerus in 2 cases. All the other 226 neonates were healthy when they left the hospital.

**Discussion :**

The rate of VBD observed in this study is 69.56%, similar results have been reported by other authors[8-10].

The 56(54.91%) cases of the failed VBD that necessitated emergency CS in our series were 13(23.21%) cases of stationary labour, 38(67.85%) cases of AFD and 5(8.9%) cases of cord prolapse.

Labour was considered as stationary if vaginal examination findings during an interval of 4hours did not show any satisfactory progress in cervical dilatation or descent of the breech. In such cases the attempt at VBD was discontinued and delivery was completed by CS.

The CS rate in our study in breech presentation was (30.43%). This rate is higher to the rates found in other series[11].

The episiotomy rate in our study was 39.63% and it is lower than the rates found in other studies[12]. Some authors have suggested systemic episiotomies during nulliparous breech delivery[12]. However, since episiotomies carry some maternal morbidities, such as persistent perineal pains and superficial dyspareunia, we offered episiotomies electively in cases of prematurity(to reduce trauma to fetal head) and to women of ≥28 years because of rigid and non-distending perineum.

**Conclusion :**

This study has shown that VBD is unsafe in the following well known circumstances, inadequate pelvis, fetal weight ≥ 3,500gms or ≤ 1,800gms, footling breech presentation, post term pregnancies. Although systemic CS for the breech is not recommendable in low resource countries, elective CS should be offered to women with the above mentioned unfavourable circumstances and in the presence of other obstetric complications. Whenever trial of VBD is offered, every arrangement should be made for rapid emergency CS in cases of failure of progress, cord prolapse and AFD are not always predictable.

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