



# VAGINAL BREECH DELIVERY; STILL A SAFE MODE OF DELIVERY TO REDUCE THE RATE OF CESAREAN SECTION

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**Article Received on:**  
05/01/2015  
**Accepted for publication:**  
25/06/2015  
**Received after proof reading:**  
08/08/2015

**ABSTRACT... Objective:** To determine the obstetric and perinatal outcome of pregnancies with singleton breech presentation, and to scrutinize the causes of increasing incidence of cesarean section in breech presentation. **Design:** Analytical Observational study. **Place and duration:** Department of obstetrics and gynecology Fatima hospital Baqai university campus from Jan 2010 to Oct 2011. **Patients & Methods:** This study includes 135 patients with singleton breech presentation  $\geq$  34 weeks of gestation, were analyzed in detail with help of designed performa. Patients were categorized in three groups. Groups a, who had elective C-section, group b. who underwent emergency caesarean section or had C-section after failed trial of vaginal delivery and group c. who had vaginal breech delivery. Elective caesarean section was done in those cases that had some other indications for carrying out this procedure apart from breech presentation. Trial of vaginal breech delivery was planned for all multiparous women except those falling in group A. All antepartum fetal demise, twin pregnancies and placenta previa of major degree were excluded. **Results:** Of 135 women, 7(5%) underwent prelabour cesarean, and 128(95%), had trial of vaginal delivery, of whom 117(91.5%) delivered vaginally. Significantly more infants weighing  $>$  3.5kg were selected for prelabour and intrapartum cesarean than vaginal delivery. Two neonates had Apgar score  $<$  7 at 5 minutes but both were normal neurologically. There were no nonanomalous perinatal death and no case of significant trauma or neurological dysfunction. Two infants died due to lethal anomalies. **Conclusion:** Trial of vaginal breech delivery in well counselled patients, still taken as an appropriate option without compromising prenatal and maternal outcome. It also decreases the rate of cesarean section.

**Key words:** Vaginal breech delivery, cesarean section, perinatal and maternal outcome.

**Article Citation:** Naz S. Vaginal breech delivery; vaginal breech delivery: still a safe mode of delivery to reduce the rate of cesarean section. Professional Med J 2015;22(8):1024-1028.

## INTRODUCTION

Breech presentation at term accounts for 2-4% of all deliveries. It is considered as high risk pregnancy because of 2-5% increase risk of perinatal morbidity and mortality in terms of complications. Both mother and fetus are exposed to greater risks with breech presentation compared to cephalic presentation.<sup>1</sup> It has been proposed that presentation of fetus as a breech may be an expression of poor fetal quality or an already abnormally developed fetus. So the perinatal mortality is increased 2-4 fold with breech presentation regardless of mode of delivery.<sup>2</sup> Delivery of fetus in breech presentation has been a subject of controversy for decades. Some studies recommended elective cesarean section.<sup>3</sup> However several studies reported no

difference in perinatal outcome following vaginal or abdominal delivery.<sup>4</sup>

Cesarean delivery for breech presentation has been shown to increase both short and long term maternal morbidity and mortality.<sup>5</sup> Despite increase in cesarean section rate incidence of neonatal birth asphyxia and trauma remain unchanged.<sup>6</sup> Favorable neonatal outcome could not be achieved by C-section alone because technique of extracting a breech during C-section is essentially similar to maneuvers adopted during vaginal delivery. So policy of elective C-section in all cases of breech presentation has become disputed and criteria to have safe vaginal breech delivery proposed, which have pelvic adequacy, estimated fetal weight  $<$ 3.6kg, smooth progress

of labour monitored by objective parameters and presence of skilled staff.<sup>7</sup> The facilities for vigilant intra-partum fetal monitoring, performing c-section at short notice and neonatal intensive care unit have contributed greatly to embark upon safe vaginal delivery.

This study was carried out to analyze the outcome of breech presentation related to mode of delivery so that way could be found for safe delivery with acceptable perinatal outcome.

## PATIENTS & METHODS

This observational analytical study was carried out in Fatima Hospital Baqai university campus Karachi during January 2010 to October 2011. All singleton (n=135)  $\geq$  34 weeks breech pregnancies either multipara or primipara were enrolled. The informed consent was taken from all study participants. Data collected included socio-demographic variables of the cases, detailed obstetrical history, important features of index pregnancy, selection of mode of delivery and reason for choosing a particular route of delivery for a particular patient, indications of elective and emergency caesarean sections in the cases who underwent abdominal delivery, fetal outcome measured in terms of Apgar score 5 minutes after birth, uncorrected perinatal mortality and complications. Records of perinatal morbidity and mortality were maintained till the patients were discharged from the hospital. Neonatal mortality directly related to breech delivery was calculated by excluding intrauterine deaths and intra-partum stillbirths occurring before coming to the study place.

Patients were categorized in three groups. Groups a, who had elective C-section, group b. who underwent emergency caesarean section or had C-section after failed trial of vaginal delivery and group c. who had vaginal breech delivery. Detail counselling of the patients was the routine regarding the mode of delivery. Elective caesarean section was done in those cases that had some other indications for carrying out this procedure apart from breech presentation. Trial of vaginal breech delivery was planned for all

multiparous women except those falling in group A, those primiparas having estimated fetal weight < 3.5kg, pelvic adequacy and not associated with any other obstetrical or medical complications were given trial of vaginal breech delivery. Induction and/or augmentation were carried out where indicated. Assisted breech delivery was the method employed and well trained residents performed most of the vaginal breech delivery. Data sources included records of antenatal and postnatal periods in the wards, labor room, operation theatre and intensive care nursery. All the records were collected on prescribed proformas. The data analyses of all the variables were performed.

## RESULTS

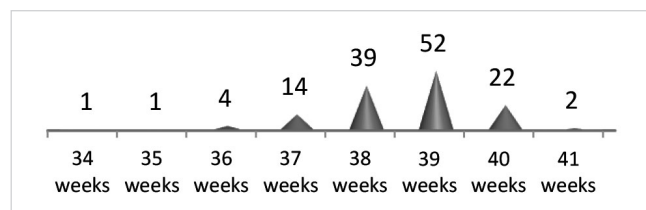
In this study there were one hundred thirty five (n=135) patients with the mean age of  $27.2 \pm 4.5$ . The minimum age was 18 years and the maximum age was 41 years. Majority of the women 56 (41.48%) were between the age group of 26-30 years followed by 46 (34.07%) in age group of 21-25 years (Table-I). Most of the women 126(93.33%) were illiterate, while 9 (6.67%) had primary education or secondary level education. There were 32(23.70%) primiparas, 86(63.70%) multiparas and 17(12.6%) grand multiparas.

Age Group in Years	Number of Women	Percentage of Women
< 20	10	7.41%
21-25	46	34.07%
26-30	56	41.48%
31-35	16	11.85%
>35	7	5.19%
Total	135	100%

**Table-I. Women's age presented with Breech presentation**

The mean gestational age was  $38.5 \pm 1.1$  weeks, with minimum gestational age of 34 and maximum 41 weeks. (Figure 1) There were 20(14.81%) women who had gestational age between 34 to 37 weeks and 115(85.18%) were in gestational age group between 38 to 41 weeks. Twenty three women (17.04%) were booked, 100(74.07%) were unbooked, referred cases were 5(3.70%) and Dai handled cases were 7(5.19%). (Table II) Among

the mode of delivery 7(5.19%) had elective caesarian section, 11(8.15%) had emergency CS and 117(86.6%) had vaginal delivery. (Table III) When age and educational status of the patient was evaluated with mode of delivery both were found non-significant (P=0.807 and P=0.092 respectively). Among 18 women who had caesarian section 1(5.5%) had CPD, 2(11.11%) had fetal distress, 6(33.33%) had fair size baby, 4(22.22%) had non-progress of labour, 3(16.66%) had precious pregnancy and 2(11.11%) refused for trial. (Table IV) The weight of fetus was found significant (P=0.000).



**Figure-1. Gestational age of fetus presented with Breech Presentation**

Status of patients	Number of Patients	Percentage of Patients
Unbooked	100	74.07%
Booked	23	17.04%
Referred	05	3.70%
Dai Handled	07	5.19%

**Table-II. Patient's status presented with breech presentation.**

Mode of Delivery	No. of Patients	Percentage of Patients
Elective LSCS	07	5.19%
Emergency LSCS	11	8.15%
Vaginal Delivery	117	86.67%
Total	135	100.00%

**Table-III. Mode of delivery in patients presented with breech presentation**

*LSCS: lower segment caesarian section*

Indications of LSCS	No. of Patients	Percentage of Patients
CPD	1	5.5%
Fetal Distress	2	11.11%
Fair size	6	33.33%
Non-progress of labour	4	22.22%

**Table-IV. Indications of Cesarean section in patients presented with breech presentation.**

Among the maternal complications, who had under gone lower segment cesarean section pyrexia was observed in 2(1.48%), wound infection was observed in 1(0.74%) and no complications was observed in 132(97.78%) women. The mean weight of the baby was 2.9±0.5 kg with the minimum weight of 1.5 and maximum was 4 kg. The women who had received the trial of labour and delivered vaginally there were 2 (1.48%) new born who Apgar score less than 7 and 133 (98.52%) had had Apgar score equal or more than 7. Neonatal death was observed in 2(1.48%) and remaining 132(97.78%) were alive.

**DISCUSSION**

Breech presentation may have increased risk of complications for both mother and fetus. There are three types of breech presentations. These are extended breech (frank breech) where thighs are flexed at the hip and legs extended, flexed breech (complete breech) where thighs are flexed at the hip and legs flexed at the knee and floating breech where one or both legs are extended below the level of the fetal buttock. In developed countries, elective caesarian section is employed in nearly all the cases of singleton breech presentation at term, because of the safety of the procedure.<sup>8</sup> However, in developing countries, where the facility, safety and acceptance of caesarian delivery is poor, the trial of labour should be the preference.

A land mark study 'Term Breech Trial' was multicentre randomized controlled trial designed to determine the safest mode of delivery for a term breech fetus. In countries with a low perinatal mortality rate, the trial showed no difference in perinatal mortality between a planned cesarean section and a trial of labor but a striking difference in "serious" short-term neonatal morbidity: 0.4% versus 5.1%. No difference in maternal mortality or serious morbidity was measured, leading most experts to recommend planned cesarean section for breech presentation at term. Since the publication of the 'Term Breech Trial' cesarean section has become the de facto standard of care for delivery of the term breech fetus.<sup>3</sup> In response to 'Term Breech Trial' a Norwegian

expert group published international literature on breech birth. The results showed lower perinatal morbidity among infants born vaginally in breech presentation compared to both study groups of term breech trial.<sup>9</sup> The policy of routine elective cesarean section for breech presentation revised.

In a study conducted by Vistad I, et al the median age recorded in both groups of planned cesarean section and planned vaginal birth was 29 years.<sup>10</sup> In another study conducted by Daskalakis G, et al. The mean maternal age recorded in planned cesarean section cases were  $26.7 \pm 4.1$  years and in women who had undergone planned vaginal delivery was  $25.2 \pm 3.8$  years.<sup>11</sup> In our study 56 (41.48%) women were between the age 26-30 years followed by 46 (34.07%) women were between the age of 21-25 years.

In a study by Carayol M et al, 917 (62.55%) women were nulliparous, while 549 (37.44%) women were multiparous.<sup>1</sup> In another study by Jadoon S, et al 87% were multigravida while 13% were primigravida.<sup>12</sup> In our study there were 32 (23.70%) primiparas, 86 (63.70%) multiparas and 17 (12.6%) grand multiparas. The gestational age recorded by Carayol M et al, was 37 weeks in 152 (10.27%) women, 38-40 weeks in 1115 (75.38%) women and equal or more than 41 weeks in 212 (14.33%) women. In our study the gestational age recorded 34-37 weeks was 20 (14.81%) women, 37-40 weeks there were 113 (83.70%) women and equal or above 41 weeks were 2 (1.48%) women.

In a study by Jadoon S, et al out of 135 cases of breech presentation 100 cases were selected. All of them were non booked which constitute 68.96% of all cases.<sup>12</sup> In our study 23 women (17.04%) were booked, 100 (74.07%) unbooked, referred cases 5 (3.70%) and Dai handled cases 7 (5.19%). Vistad I, et al, of 568 women, elective cesarean section was planned in 279 (49%) cases and vaginal delivery was planned in 289 (51%) cases. Emergency cesarean section was performed in 104 cases of planned vaginal delivery (36.3%).<sup>10</sup> In our study among the mode of delivery 7 (5.19%) had elective caesarian section, 11 (8.15%) had emergency CS and 117 (86.66%) had vaginal

delivery. The overall cesarean sections were 18 (13.33%).

In a study conducted by Abiodun O, et al planned vaginal breech delivery was carried out in 61 (46.2%) patients, while 71 (53.8%) patients had elective cesarean section. The indications for elective cesarean section were primigravida 25 cases (32.5%), previous cesarean section 16 cases (22.5%), medical disorder in pregnancy 15 cases (21.1%), footling breech presentation 8 cases (11.3%), request cesarean section 5 (2.8%) cases and big baby 2 cases (2.8%).<sup>13</sup> The indication of elective and emergency cesarean section in our study was fair size 6 (33.33%), non-progress of labour 4 (22.22%), previous pregnancy 3 (16.66%), fetal distress 2 (11.11%), refused for trial 2 (11.11%) and cephalopelvic disproportion 1 (5.5%).

In the similar study by Abiodun O, et al revealed that the complications of vaginal breech delivery versus elective cesarean section were birth asphyxia 4 (6.6%) versus 1 (1.4%), postpartum hemorrhage 1 (1.6%) versus 3 (4.2%), urinary tract infection 1 (1.6%) versus 3 (4.2%), blood transfusion 1 (1.6%) versus 1 (1.4%) and early neonatal sepsis 1 (1.6%) only observed in vaginal breech delivery.<sup>13</sup> In our study the maternal complications were pyrexia in 2 (1.48%) and wound infection in 1 (0.74%) while no fetal complication was observed in patients who had cesarean section. The fetal complications were 2 (1.48%) had Apgar score less than 7 and neonatal death was observed in 2 (1.48%) babies, while no maternal complication was observed in patients who had vaginal delivery.

The strength of our study is that it includes data on mode of onset of labour in selected sample population. Majority of the patients were unbooked and they were well counselled about the trial of labour. The limitation of the study was the absence of information on long term maternal and infant outcome. The argument is not that we should restrict to the fact that vaginal breech delivery results in perinatal mortality; rather, the argument is that the vaginal breech delivery is

safer for the mother. However, the rate of perinatal mortality associated with vaginal breech delivery can be reduced even further, without resorting to routine cesarean section.

## CONCLUSION

Trial of vaginal breech delivery must be undertaken in well counsel selected patients by well-trained team in a specialized centre to reduce the morbidity of the patients.

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## AUTHORSHIP AND CONTRIBUTION DECLARATION

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