

Route of Delivery for Term Breech Presentation; Vaginal Versus Caesarean Section; Comparative Analysis;

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Abstract: route of delivery for term breech presentation either by abdominal route or vaginally is a dilemma in obstetric practice. To assess mode of delivery influencing on neonatal outcome, we conducted a prospective study done in department of obstetrics and gynecology at Mandya Institute of Medical Sciences for one and half years. Out of 273 term breech presentations 134 met our criteria. 72.3% had successful assisted breech delivery. vaginal breech delivery was associated with significantly low Apgar score (<7) at birth, compared to caesarean births. There is no significant difference in neonatal mortality or maternal mortality between two groups. Assisted breech delivery can be a route of choice in selected patients in a low resource set up.

I. Introduction

Breech presentation constitutes about 3-4% of term pregnancies.⁽¹⁾ Management of breech delivery is a high risk compared to cephalic presentation with respect to fetal morbidity and mortality. Breech at term can be managed by external cephalic version, vaginal breech delivery, or by caesarean section.

Term breech trial (TBT) (Hannah et al 2000)⁽²⁾ largest multicentre randomized clinical trial published in 2000, was to determine safest mode delivery for breech presentation. The report showed there is a significant difference in perinatal mortality, neonatal mortality and serious neonatal morbidity is 1.6% versus 5.0% between caesarean section (CS) and vaginal breech delivery (VBD), but there is no change in maternal mortality or serious maternal morbidity.

With this most of experts recommended planned CS for breech presentation than VBD. Several other studies (Kumari and Grundsell 2004⁽³⁾, Alarab et al 2004⁽⁴⁾, Doyle et al 2005⁽⁵⁾) showed no increased risk in perinatal morbidity or mortality either by vaginal or by caesarean section.

Further TBT has its own limitations,

1) Case selection and intrapartum management was not proper

2) Skill worker in assisted breech delivery not defined⁽⁶⁾

Cochrane database revealed External cephalic version is helpful if it is done near term (34-36 weeks). It may not be so successful if it is done after 37 weeks⁽⁷⁾.

With this in mind, we conducted a study for one and half years from June 2002 to Dec 2013 and offered vaginal delivery for breech presentation in selective population.

II. Material and methods

This was a prospective study done in department of obstetrics and gynecology at Mandya Institute of Medical Sciences from June 2012 to Dec 2013.

Inclusion criteria;

- 1) frank/complete breech presentation
- 2) adequate maternal pelvis
- 3) no fetal anomalies on ultrasound examination
- 4) adequate amniotic volume
- 5) gestational age more than 37 weeks

Exclusion criteria;

- 1) any presentations other than frank / complete breech
- 2) neutral attitude of head/extension of head attitude
- 3) cord presentation
- 4) fetal growth restriction/ fetal macrosomia
- 5) inadequate maternal pelvis
- 6) fetal anomaly
- 7) breech with oligomnios
- 8) breech with previous uterine scar

Labor management;

- a) clinical examination at the time of labour ,for the type of breech ,adequacy of pelvis
- b) Emergency ultrasound examination for type of breech, amniotic volume, attitude of head, and estimated fetal weight.
- c) Continuous electronic monitoring of fetal heart rate in both first and second stage of labour.
- d) Second stage of labor not allowed more than 60min
- e) No induction of labour. Only augmentation of labour with Oxytocin.
- f) Progress of labour is monitored every two hours by pelvic examination
- g) An presence of obgyn specialist experienced in assisted breech delivery, conducted at least 25 VBD under supervision
- h) An assistance should be present during delivery to apply suprapubic pressure to favour flexion of head
- i) Maternal pushing efforts were encouraged in second stage
- j) No fetal traction. Manipulation of fetus only after delivery of umbilicus. Spontaneous breech delivery is acceptable.
- k) Nuchal arms may be reduced by lovset manoeuvre
- l) Fetal head delivery is conducted by mauriceau-smellie-viet manoeuvre
- m) Written and informed consent is taken after explaining risks and benefits of trial of labour and caesarean section.

III. Results

In the period of one and half years there were 8969 deliveries conducted in our hospital, of these 273 were term breech presentation with the incidence of 3.04%. 134 breech pregnancies met our inclusion criteria, and were offered trial of labour. Mean age of study is 23.35+3.6 years with the range from 18-36 years.

Table 1 showing gravidity and successful VBD

	Gestational age in weeks	VBD	Failed VBD, underwent Emergency LSCS
Primigravida	38.01 + 2.77	51 (67.1%)	25 (32.9%)
Multigravida	37.77 + 2.86	46 (79.3%)	12 (20.7%)
TOTAL:		97 (72.3%)	37 (27.7%)

Among 134 pregnancies 76 were nullipara and 58 were Multigravida with term pregnancy. Among Primigravida 51(67.1%) had successful vaginal deliveries, among multi 46(79.3%) had successful vaginal delivery. average VBD is around 72.3%.

Table 2: showing average maternal age ,gestational age, Apgar score in vaginal delivery and in caesarean section

	Vaginal delivery	Emergency LSCS	Elective LSCS	F- Value	P-Value
Maternal age(year)	23.17 + 3.72	23.57 + 3.58	23.17 + 4.49	0.75	0.602(NS)
Gestational age(week)	37.06 + 3.34	38.80 + 1.79	38.61+ 1.28	14.88	<0.001(S)
Fetal weight(gram)	2420.58 + 581	2711.15 + 506	2728.89 + 390	10.00	<0.000063(S)
5 minute Apgar score(<7)	20	04	02		
Admission to NICU	08	01	Nil		
Congenital malformation.	07	--	---		

Gestational age and fetal weight are significantly higher in emergency and elective CS than assisted breech delivery.

There were 24 breech deliveries with poor Apgar score (<7) at 5min.20 among VBD and 04 with emergency caesarean. 09 babies admitted to NICU for observation

Three babies stayed more than five days in NICU.

One baby had humerus fracture in assisted breech delivery. one baby with assisted breech delivery died with sepsis after 14days of NICU admission .

We encountered seven anomalous babies with breech presentation, six of them had neural tube defect(meningocele, meningomyelocele, spina bifida and hydrocephalous,)

Table 3 showing failed VBD underwent emergency CS with indication

	Primigravida (%)	Multigravida (%)
Breech with Stationary labour	16 (64%)	07 (58%)
Breech with arrest in 2 nd stage.	05 (20%)	01 (8%)
Breech with Fetal distress	04 (16%)	04 (34%)
Total	25	12

Most common indication for failed VBD is stationary labour both in primi and multigravida

Table 4 showing breech presentation not met inclusion criteria underwent elective CS.

	Number	Percentage
Breech with oligomnios/PROM	48	35
Breech with previous LSCS	28	20
Breech with FPD	25	18
Complicated breech	13	09
Medical disorders and other conditions/not given consent	25	18

Most common indication among excluded pregnancies was breech with oligomnios and breech with previous caesarean section.

IV. Discussion

In our study incidence of breech at term is 3.04% is comparable to other studies (3-4% in Hickok et al, 1992⁽¹⁾ fawole et al., 2001⁽⁸⁾)

In our study average successful vaginal breech delivery is 72.3% which is almost similar to other studies reported before ^(9, 10). We had 79.3% of multipara delivered vaginally, compare to 67.1% in primigravida, indicating multiparous women had more chances of vaginal breech delivery than nulliparous women.

The main indication for caesarean section was stationary labour followed by fetal distress. Labour was considered stationary, if vaginal findings during an interval of four hours did not show any progress in cervical dilatation or descent of breech⁽³⁾ In these cases vaginal delivery was abandoned and delivery was carried out by caesarean section.

In second stage of labour if delivery failed to occur in sixty minutes, these cases also considered as stationary labour and delivery was done by caesarean section.

Rigid cervix and poor perineal distention may be the reasons for stationary labour. A cervix is called rigid if it not become soft and did not dilate normally despite good uterine contractions.

In our study we encountered 23 cases of stationary labour in first stage and 06 cases of stationary labour in second stage in such cases attempt of VBD discontinued and delivered by caesarean section.

We also encountered 08 cases of fetal distress during trial of vaginal breech delivery underwent emergency caesarean section.

24 babies had poor Apgar score (<7) at birth (20 among VBD and 04 of emergency caesarean).only two babies among excluded pregnancies with breech underwent elective caesarean section had poor Apgar score. Poor apgar score(<7) at birth is significantly more in VBD than in elective caesarean section similar results seen in Nkwabong Elie et al 2012 ⁽¹¹⁾ one baby with VBD died after 14 days with sepsis.

We encountered seven anomalous babies with breech presentations; most common anomaly was neural tube defect.

V. Conclusion

Appropriate counselling is to be given to all women with breech presentation regarding mode of delivery. VBD can be a route of choice in these women. VBD is offered in selective population after doing emergency ultrasound during early labour to avoid perinatal complications. Gestational age and fetal weight both are significantly high in CS group than VBD. Obygn specialist experienced in VBD is preferable during assisted breech delivery to avoid complications. Low Apgar score at birth, is significantly high in VBD than caesarean delivery, serious and significant perinatal morbidity is not seen in VBD/CS. There is a need for regular training of physicians on the skill of VBD.

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