REVIVAL OF VAGINAL BREECH DELIVERY

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ABSTRACT

BACKGROUND: Since the publication of term breech trial there had been a dramatic change worldwide from selective to planned Cesarean Section for all women with breech presentation at term. This high cesarean section rate led to adverse consequences in subsequent pregnancy & on future fertility. Choice of safest mode of delivery has always been a dilemma.

OBJECTIVE: Prospective interventional study. This study was done to determine the safety of vaginal breech birth in terms of neonatal & maternal complications, so that to encourage the trend of breech delivery in carefully selected cases & to discourage the trend of routinely recommending cesarean section for all gravidas with fetus in breech presentation at term. The study was conducted at Department of Obstetrics & Gynae Mardan Medical Complex from January 2010 to December 2015.

PATIENTS & METHOD: About 809 patients with singleton pregnancy with breech presentation were included. Decision about mode of delivery was taken on the basis of clinical judgment and ultrasound which was further reviewed in the light of rate of progress during labour. Delivery was conducted by experienced obstetrician. Mother & infants were followed up to 6 wks post partum. The primary outcome was neonatal mortality, infant mortality & serious infant morbidity.

RESULTS: out of 809 total patients with breech presentation, 714 were planned for vaginal delivery 674 delivered (83%) while 40 pts (5%) had emergency Cesarean Sections. 95 patients (12%) had Elective cesarean section. In the delivery group two (0.29%) neonates had serious neonatal morbidity. In the cesarean group there was no serious neonatal morbidity. Infection & blood loss was greater in the cesarean group. There were no serious maternal complications in the vaginal delivery group. The difference between neonatal morbidity, perinatal mortality & neonatal mortality between the two groups was not significant.

CONCLUSION: Vaginal breech delivery is still a safe option which better suits the clinical situation & problems of our patients. In our set up, Cesarean section should not be routinely advised to patients with breech presentation no matter it may be the best management option in developed countries. Careful case selection & vigilant monitoring of progress of labour will save many patients from unnecessary section without costing extra morbidity & mortality.

KEY WORDS: Breech presentation, Breech Delivery, Cesarean section, Apgar score.

INTRODUCTION

About 3-4% of fetus present as breech at term. Choice of best mode of delivery in breech presentation has been an all time debating issue. Breech delivery has been associated with high risk of birth asphyxia & birth injury. Breech presentation irrespective of mode of delivery is associated with an increased risk of subsequent infant mental & physical disability. Other causes of higher perinatal mortality associated with

breech delivery are prematurity & congenital malformations.

Several commentaries following the publication of term breech trial 2000 & Cochrane review 2003 developed new controversy surrounding the safety of breech birth due to its unparalleled impact on already existing policy & practice^{1,2,3}. The term breech trial (TBT) was multicentre randomized trial conducted in 121 centers in 26 countries. The trial compared a policy of planned

cesarean section with a policy of planned vaginal births for selected pregnancies with breech presentations. It concluded that perinatal mortality, neonatal mortality, or serious neonatal morbidity were lower for the planned cesarean section group & there was no difference between the two groups in terms of maternal mortality or serious morbidity⁴. Within no time it transformed the worldwide policy regarding management of pregnancy with breech presentation as elective cesarean section was soon recommended by ACOG & RCOG (2001) as the safest management for term breech. There was a quick increase in cesarean section rate from 20% before 2000 to 87% in 2002⁵. It caused 8500 extra cesarean sections to prevent about 19 perinatal deaths but also caused 4 avoidable maternal deaths. For each baby saved by cesarean section one woman will experience rupture in subsequent pregnancy⁶. Almost all of the studies conducted since the term breech trial are consistent with the fact that higher cesarean section rate results in higher maternal morbidity & mortality & long-term perinatal mortality^{1,6,7,8}. Serious flaws in the study design & method were pointed out & it was concluded that the recommendations of Term Breech Trial should be withdrawn^{2,9}. Options for management of breech are ECV, planned Cesarean Section & vaginal delivery. External Cephalic Version significantly reduces cesarean section rate by reducing breech presentation at birth. planned cesarean section do guarantee the improved outcome for the child, but increase risk to the mother, compared to vaginal delivery¹⁰. For one perinatal death to be prevented 400 extra cesarean sections need to be done⁶. This study will focus on safety of vaginal delivery & to decide in favour of such a mode of delivery which results in best short & long term outcome for both the mother & the fetus.

METHOD

All patients with single fetus at term with either frank or complete breech were eligible for trial. Pre term, multiple pregnancy, intrauterine fetal deaths & fetuses with congenital anomalies were excluded from the study. Planned Cesarean

section was scheduled at 38 wks & above. Women were delivered by Cesarean section if there was slightest suspicion of fetopelvic disproportion, if the fetus was clinically judged to be ≥ 3.8 kg or if there was hyperextension of fetal head on ultrasound. In patients planned for vaginal birth management was expectant until spontaneous onset of labour & unless an indication to induce labour (post term, PROM) was present.

Fetal Heart Rate was monitored either with auscultation (every 15 min in first stage & every 5 min in the second stage) or intermittent electronic fetal monitoring. Oxytocin was regarded as reasonable to treat ineffective uterine contractions as long as there was no fetal distress & no element of disproportion. Adequate progress in active phase was regarded as up to 1 cm/hr & in the second stage as descent of the breech to pelvic floor within 2 hrs of full dilatation & delivery being imminent in 1 hour of active pushing. Cesarean Section was performed in case of fetal heart rate abnormality or lack of progress in labour. Method of delivery was by assisted or spontaneous breech delivery, without intervention until spontaneous exit of the infant up to the umbilicus & controlled delivery of the after coming head usually either with mauriceau-smeli-veit maneuver or by use of forceps. Total breech extraction was not allowed. Condition of mother & fetus was followed up to 6 wks postpartum

RESULTS

In the study period out of total 20745 deliveries by all modes, 809 were breech presentations (3.9%). 714 (88%) were planned for vaginal breech delivery. out of which 674 (94%) delivered vaginally. 40 patients (6%) had emergency Cesarean section. 95 (12%) patients had planned cesarean section. Significantly fewer nullipara (158/674; 23.44%) achieved vaginal delivery as opposed to 76.56% (516/674, p.002) multigravida. 85 % of the cases were booked. There was one early neonatal death delivered to a primigravida with stuck after coming head, Baby had <4 apgar score at 5 min,

was admitted to NICU where expired at 4th day. Seven neonates had apgar score <7 at five minutes. They were not shifted to NICU & were neurologically normal at 6 wks. One baby in vaginal delivery group had fracture humerus. There were no significant maternal complications in vaginal delivery group. Infections & mean blood loss was higher in cesarean group.

Table Shows: Effects of Parity on Mode of Delivery

Parity	Vaginal breech delivery	Emergency cesarean section	Elective cesarean section
Nulligravida	158/674 23.44 %	25/40 62.5%	46/95 48%
Multigravida	516/674 76.56 %	15/40 37.5%	49/95 52%

Table Shows: Indications for Planned & Emergency Cesarean Sections

S.No	Reasons for planned cesarean section	Reasons for emergency cesarean sections
1	Fetopelvic disproportion 71 (75%)	Failure to progress 20 (50%)
2	Patients request 5(5%)	Fetal distress 14 (35%)
3	Previous cesarean section 10 (10%)	Footling breech 4 (10%)
4	Maternal disease 9 (10%)	Maternal disease 2 (5%)

Table Shows Fetal Outcome in Relation to Mode of Deliver

Neonatal morbidity	Planned vaginal delivery	Elective cesarean section	P value
Stuck head	1	-----	NA
Fracture long bone	1	0	NA
Hypotonia >2 hours	2	0	NA
Apgar score <7 at 5 minutes	7 (0.98%)	0	(0.1)(NS)
Apgar score <4 at 5 min	1	0	NA
Transferred to NICU	1	0	NA
Neonatal mortality	1/714 (0.14%)	0	NA
Perinatal mortality	2/714 intra uterine death (0.03%)	1/95 intra uterine death (1%)	

DISCUSSION

This study was done to find out the safety of vaginal breech delivery in terms of maternal & perinatal outcome in comparison with cesarean delivery so that to review our policy about management of pregnancy with breech presentation at term. After the Publication of term breech trial planned cesarean section was recommended by both Royal College of Obstetrics & Gynae (RCOG) & American College of Obstetrics & Gynae (ACOG, 2001) as the safest method of delivery in a singleton pregnancy with breech presentation at term. This had a worldwide impact on clinical practice, increasing the cesarean section rate to 96.3% & above¹¹. studies done over the following years proved that this Increased trend of Cesarean Section also increased maternal morbidity & mortality & the increased long term risks of both perinatal deaths^{7,8,10}.

Research conducted since the term breech trial suggested insignificant differences between the outcome of planned Cesarean Section & planned vaginal breech delivery in large maternity institutions^{12,13}. In this study the perinatal mortality is 2.8 per 1000 in the vaginal breech delivery group which is similar to that given by Society of Obstetrics & Gynaecology Canada³. There was one (0.14%) neonatal death & one in utero death in this group. There was one in utero death in elective section group, the difference is not statistically significant, as in other studies^{12,14}. This good neonatal outcome is due to strict selection criteria for planned vaginal delivery & vigilant intra partum management. This is also due to Regular antenatal examinations & special attention to decision about mode of delivery.¹². All the above studies document the potential safety of vaginal breech delivery.

IN this study the estimated birth weight for planned vaginal breech group did not exceed 3.8 grams. Neonatal morbidity in vaginal delivery group was very low; only one neonate had serious birth trauma. Baby with birth weight <2.5 who is small for gestational age due to intrauterine growth restriction should be preferably delivered by elective CS¹². This careful recruitment criteria was also observed in this study which explains the low (0.14%) neonatal mortality rate in vaginal delivery group

Parity should be considered as separate factor in the analysis of vaginal breech outcome. In present study 23.44% of the patients were nullipara & 76.56 % (p .002) were multigravida who successfully delivered vaginally, which is in accordance with other study¹⁴. Term Breech Trial also shows that risk of perinatal death or serious adverse neonatal outcome due to vaginal delivery in multigravida was remarkably low¹.

In this study elective cesarean section rate has been 12% & emergency cesarean section was done in 5% which is quite low compared to other studies.¹. This is because 85% of the patients had regular antenatal visits & had detailed counseling

& all the necessary workup done & 79% of the patients were multigravida. Our patients prefer vaginal breech delivery due to higher short & long term risks of cesarean section because of low socioeconomic status & a trend of large family size. A policy of planned cesarean section in all the pregnancies with breech presentation will increase risk of repeat section, rupture uterus, placenta previa & placenta increta^{6,7}. These observations are true for a developing country like Pakistan where due to lack of awareness, and resources almost 90% of the patients are attended by untrained Traditional Birth Attendants during labour, therefore planned cesarean section should not be recommended as first choice¹⁵. A primigravida who has elective cesarean section for breech is less likely to require a repeat cesarean section than primigravida who has an elective cesarean section for cephalic presentation. The process of labour is associated with higher perinatal morbidity even in fetuses with cephalic presentation but that does not mean that planned cesarean section should be recommended to all the women with cephalic presentation at term. The high cesarean section rate in other studies may be the result of term breech trial¹⁶. & medicolegally alert society¹. The choice of breech delivery is also a patient-doctor driven decision depending on & on attitude of obstetrician towards vaginal breech delivery¹⁷.

Based on the weight of evidence, the SOGC 2009 Clinical Practice Guideline on Vaginal Delivery of Breech Presentation included the following conclusions: "careful case selection and labour management in a modern obstetrical setting may achieve a level of safety similar to elective Caesarean section" & planned vaginal breech birth is reasonable³. Vaginal breech delivery has been proved safe in places where it is commonly practiced with appropriate protocol for managements & adequate skill & equipment for immediate Cesarean Section & neonatal resuscitation¹³. Maternal morbidity is low in breech delivery group & it is significantly higher in cesarean section¹⁸. This study shows minimal maternal morbidity, 6 patients had vaginal tears

& two had second degree perineal tears (1.2%), infections & blood loss was significantly higher in cesarean group compared to vaginal delivery.

To deliver a women expecting uncomplicated vaginal breech delivery by elective Cesarean Section because of inexperience should be avoided²⁰. Training of health care professionals in maneuvers of breech delivery will reduce the risk to healthy fetuses. It is now apparent that midwives & obstetricians have become deskilled. RCOG guidelines 2006 recommend vaginal breech delivery should be undertaken by experienced clinician so training of the relevant staff is essential. In 2006 ACOG also recommended that decision regarding mode of delivery should depend on experience of healthcare provider. ECV should be offered wherever possible. After counseling the patient in the light of above evidences & about eligibility & labour management, detailed informed consent should be documented.

CONCLUSION

The safest option for a women with breech presentation at term is delivery in a hospital where cesarean delivery is used selectively & not routinely, where labour is closely supervised, where there are cautious clinical guidelines that are implemented & where delivery is conducted by an experienced obstetrician. These are the universal principals that apply to any women placing her care & the care of her baby in the hands of an obstetrician. Vaginal breech delivery is a safe option in carefully selected patients. Detailed counseling & informed consent is a must.

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