A Retrospective Review of Breech Deliveries with Maternal & Fetal Outcomes at a Tertiary Care Hospital Peshawar, Pakistan

Bushra Khan[*], Durdana Khan[†]; Azmer Khan[‡]; Farhat R Malik[§]; Naila Nasr Malik[**]

Abstract

The objective of this research is to determine the maternofetal issues of breech presentation at a Tertiary Care Hospital in Pakistan along with maternal and fetal outcomes in respective to modes of delivery. A retrospective review of 200 breech deliveries between January, 2010 and December, 2011 were performed. All breech presentations included both booked and non-booked patients, and breech pregnancies with incomplete data and successful ECV were not the part of the study. APGAR score, birth injuries and neonatal deaths were evaluated as variables of interest. Duration of hospital stay, perineal injuries, post-operative complications like ileus, infections of chest, wound, endometritis, urinary tract and genital were the prominent variables to be evaluated in relation to maternal morbidity. The incidence of breech pregnancy over 2 years in this study was 3.6% (Total deliveries 5489, breech 200). Breech presentation was significantly associated with multi-parity. Mothers younger than 29 years were significantly related with cesarean section of the lower segment 87% [82 out of 94 deliveries] Moreover 77% [54 out of 70] of the babies delivered as breech vaginal delivery, weighed between 2.5- 3.5 kg. The maternal complications included were, short term, like chest, wound infections and endo-metritis and prolonged hospital stay in LSCS. Most of the females with breech presentation were in advanced labor and un-booked. Maternal morbidity was high in operative abdominal delivery. Early booking and regular follow up after the diagnosis at 36weeks at Tertiary Centers may help in reducing risks and improve outcomes. Trainings in External Cephalic Version is mandatory for the trainees to combat with such situations and to improve the outcomes.

Key Words: Pregnancy; Breech Presentation; Caesarean Section; Perinatal Mortality; Retrospective Studies; Risk Factors.

Introduction

The fetus with adjacent buttocks to the birth canal is termed as breech presentation. The breech fetuses present under 28 weeks and at

[*] MBBS, MRCOG, FRCOG; Specialist- Gynecology & Obstetrics, Abdullah Bin Omran Hospital. Ras ul Khaima. UAE. Khan.leokhan@gmail.com

[†] MBBS, FCPS, MRCOG; Specialist. Gynecology & Obstetrics, Sultan Qaboos University Hospital. Muscat. Oman. duriaffaf@hotmail.com

[‡] Undergraduate Medical Student; Bachelor of Science in Cellular & Microbiology. University of Illinois. Chicago Honors College. USA. akhan325@uic.edu

[§] MBBS, MPH, CHPE, PG Diploma, Professor- Community Health Sciences, Peshawar Medical College. Warsak Road. Peshawar. Riphah International University- Islamabad. Pakistan. drfarhatmalik@gmail.com

[**] MBBS; FCPS; Associate Professor- Department of Gynecology & Obstetrics. Kuwait Teaching Hospital. Peshawar. Pakistan. nnasrmalik@yahoo.com

term with varying percentages as 20- 25, 7- 16 and 2-3 respectively (Scheer and Nubar ,1976; Hickok et al., 1992). Breech presentation appears to be a chance occurrence in pregnancies. Uterus abnormalities and fetus anomalies account for 15 percent of breech presentations such as less than 37 weeks gestational pregnancies, single & double uterus with variable volume (Ben-Rafael, Seidman, Recabi, Bider, & Mashiach, 1991; Michalas,1991), pervading lesions, abnormal placentae (Fianu, S., & Václavinková, V. 1978), abdominal wall laxity, larger uterine area, large volume of amniotic fluid, reserved maternal pelvis (Ranney B. 1973), anencephaly, hydrocephaly, sacro-coccygeal teratoma, neck mass, extended fetal legs (Ben-Rafael, Seidman, Recabi, Bider, & Mashiach, 1991), compromised fetal movements, multiple gestation, disturbed neurological functions, short umbilical cord and fetal distress (Soernes, & Bakke, T. 1986). Other reported risk factors include primi-parity , gender (Moessinger, Blanc, Marone, & Polsen, 1982), mothers on anti-convulsant, advanced age of mothers, restricted fetal growth and past history of breech (Hall, & Carr-Hill, 1982; Albrechtsen, Rasmussen, Dalaker, & Irgens, 1998).

The risk of breech presentation in second pregnancy (9 %) with first infant as breech and 2 % if the first infant was non-breech. The risk of breech presentation rose to 21 to 28 % after two consecutive breech deliveries and further increased to 38 percent with three consecutive deliveries (Ford, et al., 2010; Nordtveit, Melve, Albrechtsen, & Skjaerven, 2008; Thorp, Jenkins, & Watson, 1991, Hofmeyr, 2022). Deliveries at term from breech presentation were twice as likely to have firstborn as breech (Hofmeyr, Kulier, & West, 2015). transmitted from either parent. Mother is more likely to report subcostal discomfort when the breech is presenting since the fetal head occupies the fundus rather than the lower uterine segment and with perceive kicking in the lower, rather than upper abdomen if the breech is in a non-frank position as per clinical examination (Hsieh, Tsai, Lin, Chang, & Tsai, 2000).

Leopold maneuvers diagnose the breech however clinical assessment of the presenting part must be a routine in pregnancy. Suspicion regarding breech should be in mind with peculiar presenting. Ballottement of the breech is characteristically sluggish because it is accompanied by movement of the entire trunk. By comparison, the fetal head is readily balloted since it is relatively small and pivots on the neck. Nevertheless, clinical diagnosis is not infallible. A study elicited an experienced clinician examining 138 women, in the third trimester and detected only three of eight breech presentations with falsely diagnosed six (Fox, A. E., & Paton, R. W. 2010). If breech presentation persisted

near term or the diagnosis was uncertain, ultrasound examination was recommended to confirm presentation and type of breech, with fetal weight, and excluded the presence of a fetal or placental abnormality or an extended fetal head. Occasionally, vaginal examination in labor suggested a previously unsuspected breech presentation. Differential diagnosis included the possibility that an edematous face presentation is being palpated. A useful distinguishing characteristic is that the greater trochanters and anus form a straight line, whereas the malar bones and mouth form a triangle. Evidence based management options for women with breech presentation are planned cesarean delivery for women with persistent breech presentation. External cephalic version, to convert a breech presentation to cephalic presentation and thus increase the likelihood of vaginal birth. A Randomized trial Meta Analysis showed external cephalic version at term association with significant reductions in both non-cephalic birth (RR 0.38, 95% CI 0.18-0.80) and cesarean delivery (RR 0.55, 95% CI 0.33-0.91) (Schutte, 1985; Eide, et al., 2005;Impey, Murphy, Griffiths,& Penna,2017). Performing the version at 36^{+} weeks of gestation and using a toco-lytic drug increase the likelihood of success. An acceptable alternative was planned vaginal delivery, reasonable with detailed patient informed consent, under hospital specific protocol guidelines and by a health care provider experienced in vaginal breech delivery. Fetuses in breech presentation are at increased risk of developing mild deformations (frontal bossing, prominent occiput, upward slant and low-set ears), torticollis, and developmental dysplasia of the hip (Thorngren-Jerneck, & Herbst, 2006 ; Martin, et al., 2002) .

Breech presentation has been associated with higher perinatal mortality and morbidity. Birth trauma, breech presentation among low birthweight/preterm deliveries, congenital anomalies and neuromuscular disorders among fetuses were the some of the important factors in this regard. Adult intellectual performances were not affected by the presenting part in pregnancy (Hutton, Hannah, & Barrett, J 2002). External Cephalic Version (ECV) was the intervention proposed by Obstetricians to reduce these morbidities and mortalities with an intention to save the mothers with their new born babies. Complicated cases related to breech presentation reported were 3- 4% and this procedure i. e ECV is the best ever to save their lives (Rietberg, Elferink-Stinkens, & Visser, (2005).

A retrospective observational study was conducted in Netherlands from the National data. They evaluated the Term Breech Trial consequences upon the experienced Gynecologists behaviors and the resultant fetal outcomes. Fortunately, it gave positive and enhanced

behaviors of the doctors with good fetal outcomes that were encouraging (Yogev, Horowitz, Ben-Haroush, Chen, & Kaplan, B 2002). Another interesting questionnaire-based study assessed the attitudes of the third trimester pregnant women in relation to the ECV procedure and type of the delivery method adopted. The results of this study gave an insight that mostly (97%) women prefer planned caesarean section with its raised incidence however their attitudes have changed. Despite of the fact that they were adequately equipped with knowledge of ECV but were reluctant towards this intervention (Hannah, et al., 2000). A Randomized Multicenter Trial offered 2088 women of 26 countries with options of planned caesarean and vaginal methods for delivery through experience and competent Obstetricians. The mothers and babies were followed post-partum for 6 weeks for the deaths associated with them.

The conclusion from this study gave planned caesarean section as the best interventional option for the term breech pregnancies however, serious maternal complications were similar (Hannah, et al., 2000). A population based retrospective study analyzed the outcomes of fetus with breech presentation. The objectives were related to the planned mode of delivery before and after Term Breech Trial published results. There was increased trend of caesarean sections (94%), early neonatal deaths lessened from 0.13% to 0.05% with RR (Relative Risk) as 0.38% however, planned vaginal deliveries were had increased risk of mortalities (Hartnack Tharin, Rasmussen, & Krebs, 2011). Another study gave the results after five years of Term Breech Trial that the recommendations put forward by them should be withdrawn. As the results suggested that neonatal deaths could not be due to modes of deliveries and no significant variations seen among the babies delivered by vaginal or caesarean deliveries (Glezerman M. 2006) .

Pakistani statistics is very scarce in this matter and towards this important matter. Pregnancy and deliveries are part and parcel of life and physiologic process as well. No mother or baby should lose their lives in these interventions. Pregnancy must be made safer with all the interventions as well for abnormal presentations. Researchers up to the best of their capabilities were unable to find baseline data in this regard so this present study was planned. The objectives were to determine the consequences of breech presentation at a Tertiary Care Hospital in Pakistan along with maternal and fetal outcomes in respective to modes of delivery.

Methodology

Kuwait teaching hospital is one of the Tertiary Hospitals that is associated with Peshawar Medical College- Peshawar. This hospital caters health services to a large proportion of population of Peshawar, adjoining areas and also patients from Afghanistan. This study was conducted in Department of Obstetrics and Gynecology. Study was approved by Hospital Ethics Committee, culdicot principles were respected during the study.

Study included all singleton breech deliveries that presented at term during the period of 2 years [January, 2010 and December, 2011]. A specially designed proforma was used to obtain information from antenatal cards, case notes and labor ward registers. A total of 200 low risk singleton breech presentation were included, 130 of them underwent emergency/ elective Lower Segment Cesarean Section (LSCS) and 70 had breech vaginal deliveries. Data included were maternal age, parity, gestational age at delivery [calculated by last menstrual period and early pregnancy scan]and indications for emergency and elective LSCS. Neonatal outcome was recorded as neonatal APGAR score at one and five minutes, birth injuries and admission to intensive care unit, neonatal death. Maternal morbidity was assessed from duration of hospital stay, perineal injuries, post-operative complications like ileus, infectious morbidity e. g. chest, wound, endometritis, urinary tract and genital.

The departmental protocol was to offer detailed counseling to women with diagnosed breech presentation at term, after failed External cephalic version, on LSCS and breech vaginal delivery with their merits and demerits. External cephalic version was not done in those who present in active labor [undiagnosed] to our department, though detailed information on both modes of delivery is given.

In this study diagnosed breech presentation with previous cesarean section, medical disorders, antenatal fetal compromise, bad obstetric history and those with history of subfertility went straight for elective LSCS. This also included those who were low risk and consented for elective LSCS. Women who opted for breech vaginal delivery were selected according to protocol of breech vaginal delivery of the study included department. This included clinical history, examination, ultrasound to assess the type of breech, estimated fetal weight on ultrasound and exclusion of fetal anomalies. Contraindications to breech vaginal delivery were ruled out (Thorngren-Jerneck, & amp; Herbst, 2006). In case of post term pregnancy, elective LSCS was advised. If there was any maternal or fetal compromise that developed during labor in case planned breech vaginal delivery, emergency LSCS was opted.

Moreover, women with undiagnosed breech at term in active labor who had contraindication or women who wished for LSCS after informed counseling, were delivered by emergency LSCS. Basically, undiagnosed breech upon diagnosis by Senior house officer /registrar were discussed with consultant and options available were discussed with patient. Portable ultrasound machine in labor ward with competent registrars were available. Breech vaginal deliveries were performed under supervision of Senior registrars or consultant on call and so are emergency and elective LSCS for breeches. Anesthetist, neonatologist and neonatal intensive care unit nurse were informed and involved at the time of delivery. Statistical analysis was performed by using SPSS Version- 21 and frequencies with percentages calculated for the required variables.

Results

In this two years' study, an incidence of 3.6% breech presentation at term was shown with total deliveries as 5489; out of which breech were 200. Lower segment Caesarean sections came out to be as 130 and vaginal breech deliveries were 70. **Table- 1** shows demographical characteristics of breech presentation. The 65% were delivered as LSCS, out of which 55% were emergency LSCS and 44% were elective LSCS, while 35% were breech vaginal deliveries. Most of women with breech vaginal delivery presented in advanced labor with 7 women fully dilated. Vaginal breech delivery was significantly associated with multi-parity and age group over 30 years [82%--58out of 70 vaginal breech deliveries]. Most of grand multigravida [more than 4 deliveries] had vaginal breech vaginal deliveries. No statistical difference in elective LSCS between primary gravida and multigravidas. Maternal age less than 29years was significantly associated with emergency lower segment cesarean section 69% [50 out of 72 emergency LS CS]. Most of primary gravidas were diagnosed breech at term.

Table- 2 shows gestational age at the time of delivery, vaginal breech was more at gestational age of 37-38weeks as compared to 39-40 weeks. However, maximum breech deliveries [LSCS and vaginal] in this study took place at gestational age of 39- 40 weeks. Regarding indications, the statistics in **Table- 3** revealed that most of the emergency and elective LSCS were done in primary gravida. Elective LSCS were done mainly in primary gravidas and those with history of previous scar, while indications for emergency LSCS were primary breech in labor, fetal distress, footling breech, previous one LSCS in labor, and cord prolapse. **Table- 4** shows 77% [54 out of 70] of the babies delivered as breech vaginal delivery, weighed between 2.5- 3.5 kg, which met the criteria for breech vaginal

delivery in accordance of RCOG green top guideline 20 on management of breech presentation. Only 14 babies in vaginal delivery group weighed more than 3.5 kg and these women were multigravidas and grand multigravidas.

The maternal complications as in **Table- 5** were short term such as perineal injuries, chest, wound, urinary tract, genital and endometrial infections with prolonged hospital stay especially in LSCS Perineal injuries including third degree tears with 4 extensions of episiotomies [all sutured under general anesthesia in operation theatre] were encountered in breech vaginal delivery. The researchers gave prophylactic antibiotics to all emergency and elective LSCS at clamping of umbilical cord keeping in view the infections ahead post procedures.

Table 1
Demographic Characteristics of the Cases.

AGE (YEARS)	EMERGENCY LSCS N= 72	ELECTIVE LSCS N= 58	VAGINAL BREECH DELIVERY N= 70
< 20YEARS	4 [6%]	4 [6%]	4 [6%]
20- 29 YEARS	50 [69%]	28 [48%]	8 [11%]
>30 YEARS	18 [25%]	26 [44%]	58 [82%]
PARITY			
PRIMIGRAVIDA	50 [69%]	26 [45%]	10 [14%]
MULTIGRAVIDA	20 [28%]	26 [45%]	34 [49%]
GRAND MULTIGRAVIDA	2 [3%]	6 [10%]	26 [37%]

LSCS; Lower Segment Cesarean Section.

Table- 2
Gestational Age at Delivery

GESTATIONAL AGE	EMERGENCY LSCS, NO=72	ELECTIVE LSCS, N= 58	VAGINAL BREECH DELIVERY, N= 70
37-38WEEKS	26 [36%]	20 [34%]	38 [54%]
39-40WEEKS	40 [56%]	36 [62%]	28 [40%]
>40WEEKS	6 [8%]	2 [3.5%]	4 [5.7%]

LSCS; Lower Segment Cesarean Section

Neonatal outcome of breech presentation at term was evaluated and presented in **Table- 6**. APGAR scores were significantly high in elective LSCS. Five minutes APGAR were comparatively better in

emergency LSCS as compared to breech vaginal deliveries. The incidence of birth injuries in neonates were statistically higher in vaginal breech deliveries, NICU admission were statistically same in emergency and vaginal breech deliveries. There was 1 early neonatal death in emergency LSCS and 3 neonatal losses in vaginal breech group.

Table 3
Indication for Caesarean Sections

Indications	EMERGENCY LSCS, N= 72	ELECTIVE LSCS, N= 58
PRIMI BREECH	34 [51%]	23 [39%]
PREVIOUS ONE LSCS	4 [6%]	35 [56%]
FETAL DISTRESS FAILED PROGRESS.	25 [32%]	-
MACROSOMIC BABY	-	2 [3.5%]
FOOTLING BREECH	7 [9%]	-
CORD PROLAPSE	2	-
H/O PREVIOUS FOURTH DEGREE PERINEAL TEAR	-	1 [1.7%]

LSCS; Lower Segment Cesarean Section

Table 4
Neonatal Weights at Birth

BIRTH WEIGHTS	EMERGENCY LSCS N = 73	ELECTIVE LSCS N = 57	BREECHVAGINAL DELIVERY N = 70
<2. 5 Kg	6 [8%]	5 [8 %]	2 [3%]
2.5- 3.5 Kg	34 [47%]	15 [25 %]	54 [77%]
>3.5 Kg	33 [46 %]	37 [65.6 %]	14 [20 %]

. LSCS; Lower Segment Cesarean Section

Discussion

The breech presentation incidence in the present study was 3.6 %, with mostly non-booked, presented in active labor and were advised elective LSCS. One third was identified at time of admission to the labor ward by clinical examination supported by ultrasound. Maternal morbidity was high in operative abdominal delivery.

Table- 5
Maternal Morbidity & Short- Term Morbidity

VARIABLES	EMERGENCY LSCS N =72	ELECTIVE LSCS N= 58	VAGINAL BREECH DELIVERY N =7
FEVER	**5**	**2**	**0**
WOUND	**13**	**3**	**0**
URINARY TRACT	**9**	**4**	**1**
CHEST	**7**	**4**	**1**
ENDOMETRITIS	**3**	**1**	**1**
PERINEAL INJURIES	**0**	**0**	**13**
HOSPITAL STAY			
>1 DAY	-	-	34
3-7 DAYS	61	50	-
8 OR > DAYS	13	3	2

LSCS; Lower Segment Cesarean Section

Table- 6
Neonatal Outcomes

APGAR AT 1 MIN	EMERGENCY LSCS N = 74	ELECTIVE LSCS N = 58	BREECH VAGINAL DELIVERY N = 70
< 4	14 [19.4%]	7 [10.7%]	16 [23%]
4-6	26 [36%]	14 [24%]	23 [33%]
>6	33 [45%]	39 [66%]	31 [44%]
APGAR AT 5MIN			
<4	3 [4%]	2 [3.5%]	5 [6%]
4-6	8 [11%]	2 [3.5%]	13 [17%]
>6	62 [86%]	55 [93%]	54 [77%]
BIRTH INJURIES	-	-	13
NICU ADMISSION	TOTAL= 26	TOTAL= 15	TOTAL= 27
FOR OBSERVATION	16	14	18
RDS	9	3	6
EARLY NEONATAL DEATH	1	0	3

LSCS; Lower Segment Cesarean Section

Early booking and regular follow up after the diagnosis at 36 weeks at Tertiary Centers might help in reducing risks and improve outcomes. Trainings in External Cephalic Version is mandatory for the trainees to combat with such situations and to improve the outcomes.

During delivery the fetus as breech is highly risky due to cord compression at crowning, with shoulders, head, and arms as well from dystocia. Cord prolapse is also a feature of breech presentations mostly. These risks can be reduced through management guidelines. Breech Vaginal delivery is associated with prolonged cord compression and trauma as compared to vaginal cephalic birth. Breech presentations at this stage can be manipulated through the ECV to increase the likelihood of cephalic vaginal birth as well as caesarean delivery. Although risks are minimal however, the mother might choose to labor and undergo a vaginal breech birth. Women could prefer whether booked/ non-booked/ diagnosed/ non laboring breech presentation through external cephalic version. The results of Randomized Trials Meta-Analysis showed association of external cephalic version at term with significant reductions in non-cephalic birth (RR 0.38, 95% CI 0.18-0.80) and cesarean delivery (RR 0.55, 95% CI 0.33-0.91). Persistent breech presentation and failed External cephalic version could be suggested a planned operative delivery.

This shift in clinical practice was due to Randomized Trials evidence from the renowned Term Breech Trial (Lockwood C, 2002). It showed a policy of planned cesarean delivery for term breech presentation with tremendous decrease in perinatal/neonatal mortality and morbidity. Maternal morbidity had a short-term modest increase as compared with planned vaginal delivery. Worldwide scarce data is available regarding reduction of morbidity and mortality for breech presentation (Hartnack Tharin, Rasmussen, & Krebs, L. 2011; Kotaska, 2004). Health Care settings must use this applied data with upon the selected females with prior explanation of all factors involved with limitations (Kotaska,2004; Hauth, &Cunningham,2002; van Roosmalen, & Rosendaal, 2002 and Menticoglou,2006; Whyte, 2004; Obstetrics,2006). Planned cesarean with planned vaginal delivery through experienced gynecologist with agreed clinical guidelines (Whyte, et al., 2004). The included countries were further classified with low and high perinatal mortality rates (low = less than 20 per 1000 live births plus late fetal deaths, high = 20 or more). Cesarean delivery was performed in 550 of 1227 women (45 %) allocated to the vaginal delivery protocol. A reduction in perinatal or neonatal death was reported in comparison of attempted vaginal with planned caesarean sections after fetal abnormalities exclusion (RR 0.29, 95% CI 0.10-0.86).

The perinatal/neonatal mortality associated with planned cesarean and vaginal breech birth was (0 and 0.6 %) respectively with low national perinatal / neonatal mortality rates (0.3 and 1.3 %) respectively. The entire comparison of attempted vaginal birth and planned cesarean delivery for breech presentation were associated with a reduction in the perinatal or

neonatal death with morbidity (RR 0.33, 95% CI 0.19-0.56). All these results were largely driven by the Term Breech Trial however, short-term neonatal morbidity with planned cesarean and planned vaginal breech birth was 0.4 and 5.1 % respectively, of the countries with low national perinatal mortality rates, and 1.4 and 3.8 percent respectively (Obstetrics, A.C.o.O.P.J., & gyneocology 2006). Poor countries with low resources may not afford such interventions with feasibility issues as well. Clinical individual cases with risks to the mother, her desire to avoid cesarean delivery might predominate the short-term risks associated with vaginal birth.

The third Term Breech Trial was a large one and included 2088 women. It was a multicenter international trial and compared the Association of caesarean section with fetal outcomes of atopic diseases were assessed through a German Cohort study. For this purpose, 2500 infants were included in LIZA study and sensitization to food and inhaled allergens were noted by using testing cord blood for IgE. They found positive association of the variables assessed and proposed that caesarean might be a risk for wheeze, allergic rhino-conjunctivitis and allergic to food up to age of 2 years (Negele, et al., 2004). Another German study was also based upon checking effects of caesarean section on infants with a conclusion of being risk factor for diarrhea and allergic sensitization history of the family (Laubereau, et al., 2004).

The study results are different as compared to the present as these variables and objectives were not part of the study. The consequences of Caesarean Sections for the females planning their future pregnancies include repeat cesarean delivery and increased placenta accreta risk as well as uterine rupture (Kotaska, (2004).

The last Randomized Trials were the backbone of the current policies for planned cesarean delivery but included fewer than three thousand women. This higher magnitude of global planned cesarean increased the life-threatening complications (Schutte, et al., 2007; Hauth., & Cunningham, (2002). A Systematic Review gave supporting evidence for planned cesarean with the three Randomized Trials of planned cesarean with vaginal delivery for term breech presentation (n = 2396) (Hofmeyr, & Hannah, (2003). A Prospective study enrolled 208 women at term in labor with frank breech presentation and randomized to them for normal vaginal and elective caesarean section. Elective caesarean was carried out in 88/ 93 with five delivered normally without complications. Women scheduled for vaginal delivery were 115 and successfully delivered. Although no maternal death but with post-partum morbidities (Collea, Chein, & Quilligan, (1980). Women in these two trials with frank

or non-frank breech presentation were randomly assigned to undergo scheduled cesarean delivery and vaginal delivery within prescribed limitations, without the pelvic dimensions on X-ray pelvimetry.

Another study compared elective caesarean section with non-frank term breech presentation management. The patients randomized to trial of labor were 67 (70%) and 35 (33%) underwent elective section. The patients on labor trial were successfully delivered vaginally (n= 31; 44%) however, (n= 39; 56%) required section. Short pelvis and decreased pelvic bone measurements came out to be the sole cause of failed labor trial. Maternal morbidity was significantly higher among those who underwent sections and inadequate resuscitation was the cause behind fetal mortality. This study proved that selective management is a good option as compared to elective operations (Gimovsky, Wallace, Schifrin, & Paul, (1983). A Randomized Control Trial revealed low incidence of urinary incontinence in the planned caesarean group (36/79; 4.5%) in comparison with the vaginal group (58/ 797; 7.3%) with relative risk (0.62%) and 95% Confidence Interval as 0.41- 0.93.

Flatus incontinence was not of much problem in both groups but of less concern in the planned group (Hannah et al., 2002). Maternal outcomes after two years' post-partum time period of the planned events of single breech presentation, showed no significant change in breast feeding, child bonding, partner relationship, incontinence, depression, weakness and problems in relation to menstrual cycle, urinary system & sexual acts. However, constipation was the sole significant contributing factor with p- value of 0.02 among the caesarean group (Hannah, et al., 2004). A planned vaginal delivery was offered for the singleton breech. About 15 04women who were scheduled for elective LSCS at 39 completed weeks came in active labor and delivered vaginally Moreover, 27 women chosen for breech vaginal delivery underwent emergency LSCS due to maternal or fetal condition due to low threshold. A Pakistani study assessed perinatal and maternal outcomes in relation to breech deliveries, among 352 breech pregnant women. The results showed direct association of cesarean sections with neonatal birth weights, neonatal outcomes were unaffected with mods of delivery however, maternofetal complications were seen more in emergency sections (Fehmida Nahid, (2000). An audit of 171 breech deliveries was conducted at PIMS, with neonatal birth outcomes.

A significant correlation of congenital defects was seen with breech presentations. Perinatal deaths occurred due to Intra Uterine and congenital anomalies in 15cases only (S.B. Mazhar, S. Kausar 2002). Even the policy of planned cesarean delivery was not able to solve the problems

associated with breech presentation. From the results of Term Breech Trial, planned cesarean were difficult deliveries and trauma occurred among 0.6% neonates. Vaginal delivery was experienced by one hundred women (9.6 %). Though at present LSCS with advanced anesthetic techniques is not valued and still have high maternal morbidity. Pakistani women are ignorant of last trimester ante-natal check-ups importance, which leads to many terms breech presentation in labor and end up as emergency LSCS. Grassroot level awareness of the women should be raised for antenatal check-ups as a priority. Identification of high-risk breech cases and treating them with ECV so that safe vaginal delivery is the outcome would be best option. As a result, there will be learning opportunities for the gynecologists as well.

References

Albrechtsen, S., Rasmussen, S., Dalaker, K., & Irgens, L. M. (1998). Reproductive career after breech presentation: subsequent pregnancy rates, interpregnancy interval, and recurrence. Obstetrics and gynecology, 92 (3), 345– 350. https://doi.org/10.1016/s0029-7844(98)00176-8

ACOG Committee on Obstetric Practice. (2006). ACOG Committee Opinion No. 340. Mode of term singleton breech delivery. Obstetrics and gynecology, 108(1), 235-237.

Ben-Rafael, Z., Seidman, D. S., Recabi, K., Bider, D., & Mashiach, S. (1991). Uterine anomalies. A retrospective, matched-control study. The Journal of reproductive medicine, 36 (10), 723– 727

Collea, J. V., Chein, C., & Quilligan, E. J. (1980). The randomized management of term frank breech presentation: a study of 208 cases. American journal of obstetrics and gynecology, 137 (2), 235– 244. https://doi.org/10.1016/0002-9378(80)90780-2

Eide, M. G., Øyen, N., Skjaerven, R., Irgens, L. M., Bjerkedal, T., & Nilsen, S. T. (2005). Breech delivery and intelligence: a population-based study of 8,738 breech infants. Obstetrics and gynecology, 105 (1), 4– 11. https://doi.org/10.1097/01.AOG.0000149743.80837.d3

Fianu, S., & Václavínková, V. (1978). The site of placental attachment as a factor in the aetiology of breech presentation. Acta obstetricia et gynecologica Scandinavica, 57 (4), 371– 372. https://doi.org/10.3109/00016347809154033

Ford, J. B., Roberts, C. L., Nassar, N., Giles, W., & Morris, J. M. (2010). Recurrence of breech presentation in consecutive pregnancies. BJOG: an international journal of obstetrics and gynaecology, 117 (7), 830–836. https://doi.org/10.1111/j.1471-0528.2010.02576.x

Fox, A. E., & Paton, R. W. (2010). The relationship between mode of delivery and developmental dysplasia of the hip in breech infants: a four-year prospective cohort study. The Journal of bone and joint surgery. British volume, 92 (12), 1695– 1699. https://doi.org/10.1302/0301-620X.92B12.24960

Fehmida Nahid (2000). Outcome of Singleton Term Breech Cases in the Pretext of Mode of Delivery. Journal of Pak Med Assoc. 50 (3): 1- 8.

Glezerman M. (2006). Five years to the term breech trial: the rise and fall of a randomized controlled trial. American journal of obstetrics and gynecology, 194 (1), 20– 25. https://doi.org/10.1016/j.ajog.2005.08.039

Gimovsky, M. L., Wallace, R. L., Schifrin, B. S., & Paul, R. H. (1983). Randomized management of the non-frank breech presentation at term: a preliminary report. American journal of obstetrics and gynecology, 146 (1), 34– 40. https://doi.org/10.1016/0002-9378(83)90923-7

Hannah, M. E., Whyte, H., Hannah, W. J., Hewson, S., Amankwah, K., Cheng, M., Gafni, A., Guselle, P., Helewa, M., Hodnett, E. D., Hutton, E., Kung, R., McKay, D., Ross, S., Saigal, S., Willan, A., & Term Breech Trial Collaborative Group (2004). Maternal outcomes at 2 years after planned cesarean section versus planned vaginal birth for breech presentation at term: the international randomized Term Breech Trial. American journal of obstetrics and gynecology, 191 (3), 917– 927. https://doi.org/10.1016/j.ajog.2004.08.00

Hannah, M. E., Hannah, W. J., Hodnett, E. D., Chalmers, B., Kung, R., Willan, A., Amankwah, K., Cheng, M., Helewa, M., Hewson, S., Saigal, S., Whyte, H., Gafni, A., & Term Breech Trial 3-Month Follow-up Collaborative Group (2002). Outcomes at 3 months after planned cesarean vs planned vaginal delivery for breech presentation at term: the international randomized Term Breech Trial. JAMA, 287 (14), 1822– 1831. https://doi.org/10.1001/jama.287.14.1822

Hall, M. H., & Carr-Hill, R. (1982). Impact of sex ratio on onset and management of labour. British medical journal (Clinical research ed.), 285 (6339), 401– 403. https://doi.org/10.1136/bmj.285.6339.401

Hofmeyr, G. J. (2022, May 10). Overview of breech presentation. UpToDate. Retrieved June 7, 2022, from https://www.uptodate.com/contents/overview-of-breech-presentation

Hickok, D. E., Gordon, D. C., Milberg, J. A., Williams, M. A., & Daling, J. R. (1992). The frequency of breech presentation by gestational age at birth: a large population-based study. American journal of obstetrics

and gynecology, 166 (3), 851– 852. https://doi.org/10.1016/0002-9378(92)91347-d

Hofmeyr, G. J., Kulier, R., & West, H. M. (2015). External cephalic version for breech presentation at term. The Cochrane database of systematic reviews, 2015 (4), CD000083. https://doi.org/10.1002/14651858.CD000083.pub3

Hsieh, Y. Y., Tsai, F. J., Lin, C. C., Chang, F. C., & Tsai, C. H. (2000). Breech deformation complex in neonates. The Journal of reproductive medicine, 45 (11), 933– 935.

Hutton, E. K., Hannah, M. E., & Barrett, J. (2002). Use of external cephalic version for breech pregnancy and mode of delivery for breech and twin pregnancy: a survey of Canadian practitioners. Journal of obstetrics and gynaecology Canada: JOGC = Journal d'obstetrique et gynecologie du Canada: JOGC, 24 (10), 804– 810. https://doi.org/10.1016/s1701-2163(16)30473-x

Hannah, M. E., Hannah, W. J., Hewson, S. A., Hodnett, E. D., Saigal, S., & Willan, A. R. (2000). Planned caesarean section versus planned vaginal birth for breech presentation at term: a randomised multicentre trial. Term Breech Trial Collaborative Group. Lancet (London, England), 356 (9239), 1375– 1383. https://doi.org/10.1016/s0140-6736(00)02840-3

Hartnack Tharin, J. E., Rasmussen, S., & Krebs, L. (2011). Consequences of the Term Breech Trial in Denmark. Acta obstetricia et gynecologica Scandinavica, 90 (7), 767– 771. https://doi.org/10.1111/j.1600-0412.2011.01143.x

Hauth, J. C., & Cunningham, F. G. (2002). Vaginal breech delivery is still justified. Obstetrics and gynecology, 99 (6), 1115– 1116. https://doi.org/10.1016/s0029-7844(02)02031-8

Hauth, J. C., & Cunningham, F. G. (2002). Vaginal breech delivery is still justified. Obstetrics and gynecology, 99 (6), 1115– 1116. https://doi.org/10.1016/s0029-7844(02)02031-8

Hofmeyr, G. J., & Hannah, M. E. (2003). Planned caesarean section for term breech delivery. The Cochrane database of systematic reviews, (3), CD000166. https://doi.org/10.1002/14651858.CD000166

Impey, L. W. M., Murphy, D. J., Griffiths, M., & Penna, L. K. (2017). GM. Management of breech presentation: Green-top Guideline No. 20b. BJOG An Int J Obstet Gynaecol, 124(7), e151-77.

Kotaska A. (2004). Inappropriate use of randomised trials to evaluate complex phenomena: case study of vaginal breech delivery. BMJ (Clinical research ed.), 329 (7473), 1039– 1042. https://doi.org/10.1136/bmj.329.7473.1039

Lockwood C. J. (2002). The term, singleton, vaginal breech delivery controversy. The journal of maternal-fetal & neonatal medicine: the official journal of the European Association of Perinatal Medicine, the Federation of Asia and Oceania Perinatal Societies, the International Society of Perinatal Obstetricians, 12 (2), 75– 77. https://doi.org/10.1080/jmf.12.2.75.77

Laubereau, B., Filipiak-Pittroff, B., von Berg, A., Grübl, A., Reinhardt, D., Wichmann, H. E., Koletzko, S., & GINI Study Group (2004). Caesarean section and gastrointestinal symptoms, atopic dermatitis, and sensitisation during the first year of life. Archives of disease in childhood, 89 (11), 993– 997. https://doi.org/10.1136/adc.2003.043265

Menticoglou S. M. (2006). Why vaginal breech delivery should still be offered. Journal of obstetrics and gynaecology Canada: JOGC = Journal d'obstetrique et gynecologie du Canada: JOGC, 28 (5), 380– 389. https://doi.org/10.1016/s1701-2163(16)32155-7

Michalas S. P. (1991). Outcome of pregnancy in women with uterine malformation: evaluation of 62 cases. International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics, 35 (3), 215– 219. https://doi.org/10.1016/0020-7292(91)90288-g

Moessinger, A. C., Blanc, W. A., Marone, P. A., & Polsen, D. C. (1982). Umbilical cord length as an index of fetal activity: experimental study and clinical implications. Pediatric research, 16 (2), 109– 112. https://doi.org/10.1203/00006450-198202000-00006

Martin, J. A., Hamilton, B. E., Ventura, S. J., Menacker, F., Park, M. M., & Sutton, P. D. (2002). Births: final data for 2001. National vital statistics reports: from the Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System, 51 (2), 1– 102.

Nordtveit, T. I., Melve, K. K., Albrechtsen, S., & Skjaerven, R. (2008). Maternal and paternal contribution to intergenerational recurrence of breech delivery: population-based cohort study. BMJ (Clinical research ed.), 336 (7649), 872– 876. https://doi.org/10.1136/bmj.39505.436539.BE

Negele, K., Heinrich, J., Borte, M., von Berg, A., Schaaf, B., Lehmann, I., Wichmann, H. E., Bolte, G., & LISA Study Group (2004). Mode of delivery and development of atopic disease during the first 2 years of life. Pediatric allergy and immunology: official publication of the European Society of Pediatric Allergy and Immunology, 15 (1), 48– 54. https://doi.org/10.1046/j.0905-6157.2003.00101.x

Royal College of Obstetricians & Gynecologists (December 2006). EXTERNAL CEPHALIC VERSION AND REDUCING THE INCIDENCE OF TERM BREECH PRESENTATION (Green- top Guideline No. 2a) Reviewed 2010. Retrieved June 7, 2022, from https://www.rcog.org.uk/guidance/browse-all-guidance/green-top-guidelines/external-cephalic-version-and-reducing-the-incidence-of-term-breech-presentation-green-top-guideline-no-20a/

Rietberg, C. C., Elferink-Stinkens, P. M., & Visser, G. H. (2005). The effect of the Term Breech Trial on medical intervention behaviour and neonatal outcome in The Netherlands: an analysis of 35,453 term breech infants. BJOG: an international journal of obstetrics and gynaecology, 112 (2), 205– 209. https://doi.org/10.1111/j.1471-0528.2004.00317.x

Ranney B. (1973). The gentle art of external cephalic version. American journal of obstetrics and gynecology, 116 (2), 239– 251. https://doi.org/10.1016/0002-9378(73)91058-2

Scheer, K., & Nubar, J. (1976). Variation of fetal presentation with gestational age. *American journal of obstetrics and gynecology*, *125* (2), 269– 270. https://doi.org/10.1016/0002-9378(76)90609-8

Soernes, T., & Bakke, T. (1986). The length of the human umbilical cord in vertex and breech presentations. *American journal of obstetrics and gynecology*, *154* (5), 1086– 1087. https://doi.org/10.1016/0002-9378(86)90756-8

Schutte, M. F., Van Hemel, O. J., Van De Berg, C., & Van De Pol, A. (1985). Perinatal mortality in breech presentations as compared to vertex presentations in singleton pregnancies: an analysis based upon 57819 computer-registered pregnancies in The Netherlands. European journal of obstetrics, gynecology, and reproductive biology, 19 (6), 391– 400. https://doi.org/10.1016/0028-2243(85)90137-6

Schutte, J. M., Steegers, E. A., Santema, J. G., Schuitemaker, N. W., van Roosmalen, J., & Maternal Mortality Committee of The Netherlands Society of Obstetrics (2007). Maternal deaths after elective cesarean section for breech presentation in the Netherlands. Acta obstetricia et gynecologica Scandinavica, 86 (2), 240– 243. https://doi.org/10.1080/00016340601104054

S.B. Mazhar, S. Kausar (2002). Outcome of Singleton Breech Deliveries beyond 28 Weeks Gestation: the experience at MCH Centre, PIMS. Journal of Pak Med Assoc. 52 (10), 1- 10.

Thorp, J. M., Jr, Jenkins, T., & Watson, W. (1991). Utility of Leopold maneuvers in screening for malpresentation. *Obstetrics and gynecology*, *78* (3 Pt 1), 394– 396.

Thorngren-Jerneck, K., & Herbst, A. (2006). Perinatal factors associated with cerebral palsy in children born in Sweden. *Obstetrics and gynecology*, *108* (6), 1499– 1505. https://doi.org/10.1097/01.AOG.0000247174.27979.6b

van Roosmalen, J., & Rosendaal, F. (2002). There is still room for disagreement about vaginal delivery of breech infants at term. BJOG: an international journal of obstetrics and gynaecology, 109 (9), 967–969.

Whyte, H., Hannah, M. E., Saigal, S., Hannah, W. J., Hewson, S., Amankwah, K., Cheng, M., Gafni, A., Guselle, P., Helewa, M., Hodnett, E. D., Hutton, E., Kung, R., McKay, D., Ross, S., Willan, A., & Term Breech Trial Collaborative Group (2004). Outcomes of children at 2 years after planned cesarean birth versus planned vaginal birth for breech presentation at term: the International Randomized Term Breech Trial. American journal of obstetrics and gynecology, 191 (3), 864– 871. https://doi.org/10.1016/j.ajog.2004.06.056

Westgren, M., Edvall, H., Nordström, L., Svalenius, E., & Ranstam, J. (1985). Spontaneous cephalic version of breech presentation in the last trimester. British journal of obstetrics and gynaecology, 92 (1), 19–22. https://doi.org/10.1111/j.1471-0528.1985.tb01043.x

Yogev, Y., Horowitz, E., Ben-Haroush, A., Chen, R., & Kaplan, B. (2002). Changing attitudes toward mode of delivery and external cephalic version in breech presentations. *International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics*, *79* (3), 221– 224. https://doi.org/10.1016/s0020-7292(02)00274-6