

# IMPACT OF EXTERNAL CEPHALIC VERSION (ECV) ON MODE OF DELIVERY OF THE TERM SINGLETON BREECH

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## ABSTRACT

**Objective:** To assess the impact of external cephalic version (ECV) on the mode of delivery of the uncomplicated term, singleton breech at teaching hospital.

**Material and Methods:** This observational study was conducted in Obstetrics and Gynecology department, Hayatabad Medical Complex, Peshawar from 1st December 2003 to 31st January 2005 on all singleton term breech presentations from 37 to 41 weeks of gestation.

**Results:** Out of 265 women presenting with breech presentation at 37 completed weeks or more at our unit during the study period, 188 patients met the selection criteria. Of these only 40 patients (21.3%) had ECV. Twenty seven of these were successful (67%). A total of 161 patients continued their pregnancies as breech. Of these the mode of the delivery was: Vaginal Breech Delivery in 97 cases (60.24%) and C-Section in 64 (39.76%). Reasons for failure to offer ECV included; 129 (80.12%) cases were unbooked and admitted in emergency when ECV services were not available. 145 (90%) were admitted in labour, and majority of these were in active and advanced labour.

**Conclusion:** ECV was not found to decrease significantly the number of non-cephalic presentation at term. The reasons were that in spite of good success rates it was not feasible to perform enough ECV to have an impact on mode of delivery of singleton term breeches.

**Key Words:** External Cephalic Version (ECV), Vaginal Breech Delivery (VBD), Cesarean Section (C-Section).

## INTRODUCTION

Although it affects only 3-4% of term pregnancies the breech presentation is thought to occur in as many as 50% of gestation prior to 32 weeks. Most of these early presentations resolve spontaneously converting to a cephalic presentation as the pregnancy progresses. Attempts to facilitate version in the remainder of the breech pregnancies typically involve external manipulation i.e. External Cephalic Version (ECV) as the fetus reaches term.<sup>1</sup>

The tried and true ECV itself is a very old procedure, having been described in the literature as early as 1860.<sup>1</sup> Before the development of imaging technologies, fetal presentation was determined using Leopold's maneuver version typically, was performed without tocolysis or sedation with poor success rates. Today, breech presentation are confirmed by ultrasound imaging, which also yields information

on the type of breech and position of the fetal spine, neck and head along with estimated fetal weight. These factors are useful in predicting the success of ECV for a given patient. The introduction of tocolysis has also increased the success rate of ECV.<sup>2</sup> A prospective study of pregnancy outcomes after successful ECV found a higher risk of dystocic labour and fetal distress than for pregnancies with spontaneously occurring cephalic presentation suggesting that the cephalic position per se does not completely eliminate overall complications. Among the pregnancies in which ECV was successful the incidence of intrapartum C. Section was 16.9%, 2.25 times higher than for control.<sup>1,3</sup> The most feared complication of attempted vaginal breech delivery is entrapment of the after coming head, which can result from relative fetopelvic disproportion or from nuchal arms. Besides death and serious morbidity such as asphyxial injuries; clavicle fractures, brachial plexus, spinal cord injuries and

**EXTERNAL CEPHALIC VERSION RESULTS**

	Number (n=40)	Percentage
Successful	27	67 %
Unsuccessful	13	33 %

Table 1

maternal genital trauma may result. While these complications also may occur with C. Sections, the likelihood of difficult extracting trauma is lower with cesarean section. The results of Term Breech Trial<sup>5</sup> confirm this assumption. ECV is recommended in all term uncomplicated breeches but is that possible to do for us in the third world when most patients arrive unbooked and well advanced in labour. To answer this question we set out to start ECV to see if the number of breech presentation at the time of delivery could be reduced.

**MATERIAL AND METHODS**

This observational study was carried out in Obstetrics and Gynecology department of Hayatabad Medical Complex from 1<sup>st</sup> December 2003 to 31<sup>st</sup> January 2005. All uncomplicated singleton term breech presentation from 37-41 weeks of gestation were included in the study. All patients with intrauterine fetal demise, fetuses with congenital malformation, patients with previous Cesarean Section (C. Section) multiple and preterm pregnancies and any associated medical and obstetric problems needing C. Section were excluded from the study. All these patients were admitted through out patient department (OPD) or emergency. After admission, these patients were thoroughly evaluated by taking detailed history, doing clinical examination and investigation. Ultrasonography was done for fetal parameter. X-Ray or C.T pelvimetry was not done routinely. All these patients were fully counseled regarding the complications, outcome and informed consent was taken. Patients who met the selection criteria for ECV, were offered ECV if the services were available. Those patients who were in advanced or active labour were allowed vaginal delivery with a policy of emergency C. Section should the need arise. If a woman preferred not to have a trial of vaginal delivery, then C. Section either elective or emergency was performed. Data collected included demographic features of mother like, age, parity, type of admission, labour status. Neonatal features like weight, APGAR score at birth and sex of the baby were also noted.

**RESULTS**

A total of 265 women presented with breech presentation at 37 completed weeks or more at our unit during the study period. Out of these 188 patients met the selection criteria, of these

only 40 patients (21.3%) had ECV. 27 of these were successful (67%) and 13 (33%) unsuccessful (Table No.1). So a total of 161 patients continued their pregnancies as breech. Of these the mode of delivery was; vaginal breech delivery in 97 cases (60.24%) and c. section in 64 (39.76%) cases (Table No.2). ECV was not offered in rest of cases because: 129 (80.12%) cases were admitted in emergency (Table No.2) when ECV services were not available, 145 (90%) cases were admitted in labour, and majority of these were in active and advanced labour (Table No.2). Sixteen patients were not in labour, of these 7 patients had premature rupture of membranes. The commonest age group was 21-40 years (80%) (Table.2). Most of the patients were primigravida (46.58%), while multigravides were 36% and grand multigravide were 17.39% (Table 2). Most of the babies (82%) had good APGAR score at 1 min i.e. 8/10 (Table 3). Babies' birth weight ranged between 2.5-3.5 kg in 91% cases in VBD and about 79% in Caesarian breech deliveries (Table 3) and the male sex was the predominant sex. (Table 3).

**DISCUSSION**

Three to four percent of the term singleton pregnancies are complicated by breech presentation. The management options are to offer external cephalic version (ECV), to perform Caesarian section or to aim for vaginal birth. There has been an increasing reluctance in many centers,

**DEMOGRAPHIC FEATURES OF THE PATIENTS (n=161)**

Demographic Features	Number (n=161)	Percentage
<b>a. Admission Status</b>		
Booked	22	13.66 %
Un-Booked	129	80.12 %
Booked outside	10	6.21 %
<b>b. Age</b>		
=20	28	17.39 %
21 - 39	130	80.95 %
= 40	3	1.86 %
<b>c. Parity</b>		
Primigravida	75	46.58 %
Multigravida	58	36.02 %
Grad Multigravida	28	17.39 %
<b>d. Labour Status</b>		
Not in labour	16	9.94 %
1st Stage		
Latent Phase	42	26.09 %
Active Phase	71	44.01 %
2nd Stage	32	19.88 %

Table 2

**NEONATAL FEATURES (n= 161)**

Neonatal Features	In Vaginal Breech Delivery (n= 97)		In Vaginal Breech Delivery (n= 97)	
	Number	Percentage	Number	Percentage
<b>a. Apgar Score at birth</b>				
8 at 1 min	82	84.54 %	46	84.54 %
6 at 1 min	07	7.22 %	15	7.22 %
2 at 1 min	06	6.19 %	03	6.19 %
0 at 1 min	02	2.06 %	0	2.06 %
<b>b. Weight of the baby (In Kilogram)</b>				
2.5 - 3.5	91	93.81 %	51	93.81 %
3.6 - 4.5	6	6.19 %	8	6.19 %
4.6 - 5.0	0	0	5	0
<b>c. Sex of the Baby:</b>				
<b>Male</b>	89	55.28 %	89	55.28 %
<b>Female</b>	72	44.72 %	72	44.72 %

Table 3

to allow vaginal birth especially after publication of the Term Breech Trial. For many the choice now lies between external cephalic version and elective C. Section. Perhaps the focus should now be on increasing the rate of offering external cephalic version, increasing its uptake and also its success.<sup>6</sup>We in our unit tried to offer ECV to all the uncomplicated term breeches during the study period. Our success rate was 67.5%, which is comparable to a study done in Nigera in which success rate of ECV was 67% as well. The success rate was 50% in another study done by Le Brett et-all in 2004.<sup>8</sup>All success rates were comparable to another study done by Regalia AL et all in 2000, where rate of success of ECV in 3 hospitals were 62.7%. Our success rate was comparable to other studies, but is it possible to offer it to all? It is still not a popular method in developing countries.<sup>7</sup>Moreover ECV's at tertiary hospital is also being more at academic level. It is not possible in our setting to offer it to all as it was attempted in only 40 cases and reasons for not offering ECV's were lack of antenatal care as majority of patients were admitted in emergency, in advanced labour in whom delivery was likely to be imminent, refusal by the patients and absence of experienced personnel. After the publication of Term Breech Trial which has shown that planned Cesarean section is better than planned vaginal birth for term fetuses in the breech presentation. The benefits being greater in countries that are reported to have lower perinatal mortality. Pakistan's perinatal mortality rate (PMR) is quoted as one of the highest in the world<sup>10</sup>. The trial states that, in countries where the PMR is high, 30 or more C. Section would need to be performed to save one baby but can we afford a higher C. Section rate given that our maternal mortality is

also very high.<sup>10</sup> Moreover eighty percent of our women deliver at home without trained birth attendants, ECV for them is not an option.

Similarly a planned Cesarean delivery does not apply to patient's presenting in advanced labour with a fetus in the breech presentation in whom delivery is likely to be imminent as in our trial where majority of the patients were admitted in advanced labour in whom delivery was imminent. Similarly some women may wish to avoid C. Section. So it is important that obstetrician should develop and maintain skills for vaginal breech delivery for those women<sup>11</sup>. Vaginal delivery of the persistent breech presentations has been the tradition since the 1<sup>st</sup> century A.D.<sup>12</sup> Fetuses that presented by the breech are at increased risk of trauma and hypoxia during delivery. Various studies reported a higher perinatal mortality in breech presentation.<sup>13-15</sup> Various trials both nationally and internationally suggest that proper selection of mothers, intrapartum fetal monitoring and presence of skillful birth attendant can result in vaginal delivery in majority of the cases so as to reduce the Cesarean section rate, and perinatal mortality<sup>16</sup>.<sup>18</sup> Similarly in our trial, vaginal breech delivery was carried out in 60% of patients with good perinatal out come (APGAR Score of 8 in 84% of neonates). In a survey done by Leung et all showed that 82% of mothers chose ECV as the first choice of managing breech presentation mainly because a successful version allowed a natural way of delivery. Therefore ECV should be an available option in all obstetric units.<sup>19</sup>

**CONCLUSION**

ECV was not found to decrease

significantly the number of non-cephalic presentation at term. The reason was that in spite of good success rate, it was not feasible to perform enough ECV to have an impact on the mode of delivery of singleton term breeches.

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