

MATERNAL AND FETAL OUTCOME IN UNDIAGNOSED AND DIAGNOSED SINGLETON BREECH PRESENTATION AT TERM

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ABSTRACT

Objective: To find out the maternal and fetal outcome in undiagnosed and diagnosed singleton breech presentation at term.

Material and Methods: This study was conducted at Lady Reading Hospital, Peshawar from 1st July 2000 to 30th June 2001 on patients presenting with singleton term breech. Multiple pregnancy and preterm breech were excluded. Information regarding age, address, parity, gestational age, physical and vaginal examination, ultrasound findings, mode of delivery, any specific procedures performed including external cephalic version (ECV) was collected. Demographic variables and obstetrical outcome were observed in diagnosed and undiagnosed breech cases. Diagnosed breech cases were diagnosed antenatally and proper management plan decided, while undiagnosed breech cases were unbooked who came to hospital for 1st time in labour.

Results: Out of 203 cases, 163 (80.29%) patients presented with undiagnosed breech and 40 (19.71%) had been diagnosed in antenatal clinic. Out of 163 undiagnosed cases, 137 (84.1%) had successful vaginal breech delivery (VBD), 22 (13.5%) cases had caesarean section (CS), three (1.8%) had subtotal hysterectomy for rupture uterus and 1 (0.6%) with successful ECV had normal vaginal delivery (NVD). Among 40 diagnosed cases, 8 (20%) had successful VBD, 22 (55%) had CS and 10 (25%) had successful ECV followed by NVD. There was no statistical significant difference in short term neonatal outcome, neonatal morbidity and mortality among both groups. Maternal morbidity was lower in vaginally delivered undiagnosed breech cases than in those delivered by caesarean section. In diagnosed group maternal morbidity was the same regardless of mode of delivery.

Conclusion: Good prenatal care is essential to reduce undiagnosed breech cases at term. ECV reduces the incidence of Breech Presentation at delivery. In selected cases VBD is a safe option.

Key words: Breech Presentation, Outcome, External Cephalic Version.

INTRODUCTION

Breech presentation occurs when the fetal pelvis or lower extremities engage in the maternal pelvic inlet.^{1,2} It is the commonest malpresentation accounting for 3-4% of all term deliveries.^{1,5} In some studies frequency as high as 7% has been reported.^{3,6} Factors which encourage breech presentation include prematurity multiple pregnancy, polyhydramnios, hydrocephaly, anencephaly, very short umbilical cord and some uterine abnormalities. Maternal and fetal risks are increased in association with breech presentation and delivery.²¹

There is 3 to 10 times increase in perinatal morbidity and mortality in breech as compared to

cephalic delivery.⁷ Fetal abnormalities are also increased in 9% of term breech presentation.² Obstetrical complications such as umbilical cord prolapse, head entrapment, injury to brain, skull and intrapartum hemorrhage are more frequent in breech presentation.

The optimum mode of delivery remains a matter of controversy among obstetricians world wide. The Term Breech Trial (TBT) was designed to determine if vaginal or caesarean section was the best mode of delivery for breech presentation.^{8,9} The study results showed that planned caesarean section produces lower infant mortality and morbidity for babies in industrialized countries.⁸ There was no difference in maternal morbidity or

TYPE OF BREECH

	Undiagnosed n=163	Diagnosed n=40
Extended breech	105 (64.42%)	28(70%)
Flexed breech	46 (28.22%)	12(30%)
Footling breech	12 (7.36%)	Nil

Table 1

mortality between vaginal and caesarean groups.^{8,9}

Afridi B et al found most patients with breech presentation in local study done in Khyber Teaching Hospital, delivered by vaginal route. On the other hand Schiff et al in another study reported 62% patients with breech presentation delivered by Caesarean section rates.¹¹ The most common way to deliver breech baby in USA, Australia and Great Britain is also caesarean section. However there is increased maternal morbidity associated with caesarian mode of delivery.⁴

Overall large studies have confirmed that elective caesarean section has lower risk to the fetus and a slightly increase risk to the mother than planned vaginal delivery of breech.³ Orji eta¹² found that given appropriate selection criteria and management protocol, the outcome from elective caesarean section might not be better than from planned vaginal breech delivery.¹² There is commonly held belief that excess perinatal morbidity and mortality is associated with undiagnosed breech presentation.¹⁴

External cephalic version is a procedure in which breech presentation is altered artificially to cephalic presentation performed exclusively through the abdominal wall. It reduces the incidence of breech presentation at delivery by 50%.^{2,13,14} We conducted the study to find out the maternal and neonatal outcome of diagnosed and undiagnosed term breech cases.

MATERIAL AND METHODS

An institutional based study was carried out in department of Gynaecology and obstetrics unit B Lady Reading Hospital Peshawar from 1st July 2000 to 30th June 2001. A total of two

hundred and three patients presented with term singleton breech presentation. Undiagnosed breech cases were un-booked and they came to hospital for the first time in labour while diagnosed breech cases were booked cases and their mode of delivery was planned. All patients presenting with singleton term breech during the set period were included while multiple pregnancy and preterm breech cases were excluded.

An informed consent was taken from the patient for inclusion in the study. The relevant information including maternal age, literacylevel, socioeconomic condition, parity, duration of gestational amenorrhoea, history of injections /handling outside the study hospital(in cases of undiagnosed breech cases) type of breech (diagnosed clinically and confirmed by ultrasound) past obstetrical, medial and surgical history was entered in to a predesigned proforma. General physical examination included pulse, blood pressure, temperature, pallor, pedal edema, obstetrical examination along with clinical pelvimetry was performed. Ultrasound scan by expert sonologist was done provided there was time for delivery. Lateral x-ray of pelvis for position of head (flexed, extended) was done in selected cases. External cephalic version(ECV) was decided by consultant to be performed in patients meeting the requisite criteria. Before and following an ECV attempt whether successful or not, nonstress test was repeated for fetal well being. In those with an unsuccessful ECV after 2 attempts the routine was expectant management provided there was no obstetrical indication for urgent delivery. The clinical criteria for vaginal breech delivery included estimated birth weight (clinically or on u/s <3600 gm) fetal biparietal diameter (<96mm), no evidence of bad obstetrical history, previous caesarean section, contracted pelvis, low lying placenta or high blood pressure. For the after coming head, mid cavity forceps were applied in most cases while in few cases mauriceau smellie veit manoeuvre to maintain head flexion was applied.

RESULTS

During one year study period 3000

MODE OF DELIVERY

Mode of delivery	Undiagnosed		Diagnosed	
	Frequency (n=163)	%age	Frequency (n=40)	%age
vaginal breech delivery	137	84.1	8	20
Caesarean section	22	13.5	22	55
ECV	1	0.6	10	25
Other*	3	1.8	0	0

*3undiagnosed cases had STAH for rupture uterus Table 2

INDICATIONS FOR CAESAREAN SECTION

Indications	Undiagnosed n=22	Diagnosed n=22
Footling breech	12(54.5%)	0
Elderly primigravida with breech presentation	1(4.5%)	6(25%)
Macrosomia	3(13.6%)	3(12.5%)
Premature rupture of membranes.	1(4.5%)	5(21%)
Severe preeclampsia	1(4.5%)	3(12.5%)
Cord prolapse	1(4.5%)	2(8.33%)
Contracted pelvis (confirmed on CT pelvimetry)	0	3(12.5%)
Placenta praevia	2(9.09%)	0
Previous C/section with breech	1(4.5%)	0

Table 3

patients delivered in our unit. There were total 203 patients with singleton term breech presentation (frequency 6.76%). Forty (19.71%) breech cases were diagnosed before the onset of labour while 163 (80.29%) were undiagnosed and came in labour for the first time. The demographic variables in both diagnosed and undiagnosed groups were comparable. Extended type of breech was the commonest type of breech presentation in both groups (Table 1).

External cephalic version was done in 13 women in diagnosed group. Out of these 10 women had successful procedure (77%). Among undiagnosed group external cephalic version was attempted in only one case who came in early labour with intact membranes and the procedure was successful. One hundred and thirty seven (84.56%) patients among undiagnosed cases and 8 (26.6%) diagnosed breech cases had successful vaginal breech delivery (Table 2). Caesarean section was performed in 22 (13.5%) of undiagnosed patients and 22(55%) of diagnosed group. 3 among undiagnosed cases subtotal hysterectomy was performed and patients survived. Indications of Caesarean section are given in table 3.

The two groups did not show any

statistically significant difference in short term neonatal outcome, birth injury, admission to neonatal intensive care unit, neonatal sepsis, neonatal morbidity, corrected neonatal morbidity (after correction with congenital anomalies) and neonatal death.

Short term neonatal outcome is given in Table 4. There were 2 neonatal deaths among undiagnosed group (1 baby was anencephalic, other had neuromuscular disorder) and 1 among diagnosed group (baby had osteogenesis imperfecta).

Table 5 shows the maternal morbidity. In undiagnosed group there were 3 cases of rupture uterus secondary to prolong labour and hydrocephalic baby. These patients came with history of oxytocin injection and dai handling . Subtotal hysterectomy was done and patients survived.

DISCUSSION

Breech presentation is the commonest presentation at term with increased risk for the mother and fetus. The frequency of breech presentation observed in our study was 6.7% which is higher than observed internationally (3-4%)¹ The reason probably is that Lady Reading

SHORT TERM NEONATAL OUTCOME

	Undiagnosed n=163	Diagnosed n=40
At 5 min >7/10	150(92.02%)	34 (85%)
At 5 min <1/10	10(6.13%)	
Birth injury (Genital damage)	1(0.61%)	
Neonatal sepsis	6(3.68%)	2(5%)
Still birth	3(1.84%)	
Corrected neonatal morbidity	24(14.7%)	7(17.5%)
Neonatal mortality	2(1.22%)	1(2.5%)

Table 4

MATERNAL MORBIDITY (EXCLUDING THOSE WITH SUCCESSFUL ECV)*

Morbidity	vaginal breech delivery		Caesarean section	
	**Undiagnosed n=137	Diagnosed n=8	Undiagnosed n=22	Diagnosed n=22
Endometritis	1(0.72)		2(8%)	1(4.16%)
Urinary tract infection	2(1.44%)		2(8%)	1(4.16%)
Pulmonary infection	Nil	Nil	1(4%)	
Surgical complications				
a. Cervical tear	1(0.72%)	Nil		
b. extension of tear episiotomy	3(2.17%)		1(4%) 1(4%)	1(4.16%)
c. wound infection	Nil			
Anaemia	2(1.4%)	Nil	2(8%)	2(8.3%)
Total	9(6.52%)	Nil	9(36%)	5(22.7%)

* 10 diagnosed cases, 1 undiagnosed had successful ECV
 ** 3 undiagnosed cases had STAH for rupture uterus Table 5

Hospital is a referral tertiary care hospital draining a wide area.

In our study, 163 (80.29%) patients presented in emergency as undiagnosed breech cases while 40(19.71%) were admitted as diagnosed breech. The proportion of breech presentation diagnosed in labour varies in published literature between 9% and 33%.⁷

Leung WC et al found 21% cases of undiagnosed breech presentation while the remaining were diagnosed in the antenatal clinic (79%)¹⁴. Gul A noted a higher percentage of undiagnosed patients with breech presentation.⁵ The higher percentage of undiagnosed cases in our study reflects the lack of awareness of good antenatal care. It was also found that 80% of undiagnosed breech patients belonged to low socioeconomic group, these people couldn't afford to visit doctor.

External cephalic version was performed in 13 cases in diagnosed group out of which 10 were successful (77%) and babies delivered as cephalic. The success of ECV depends on the skill of practitioner and proper selection of cases. It can be performed until 1st stage of labour with intact membranes. In our study only one patient among undiagnosed group came in early labour in whom ECV was performed and it was successful. Hofmeyer GJ et al found that external cephalic version at term reduces the number of breech births and caesarean section.¹⁵

Our study provides incremental evidence that patients with breech presentation at term needs assessment by senior obstetrician and caesarean section should not be considered the only mode of delivery for breech presentation. Moreover with good prenatal care number of diagnosed breech

cases can be increased leading to proper management accordingly.

Vaginal breech delivery was conducted in 84.56% (n=137) of undiagnosed breech cases and 26.6% (n=8) of diagnosed cases. In a study conducted by Wing Cheng Leung in Hong Kong reported 42% of undiagnosed and 11% of diagnosed cases being delivered vaginally.¹⁴ Afridi B et al found that out of 144 patients 133 patients had vaginal breech delivery.¹⁰ Memon et al reported that in countries where obstetric services are not organized and number of children are not restricted to two and further institutional care of pregnant women not guaranteed one has to avoid easy access to caesarean section unlike western countries.¹⁶ Caesarean section rate observed in our study was 24%. Zafar F et al reported 19% and Leeuw JP et al observed 25% in their respected studies.^{17,18} Whereas Somoray et al reported higher caesarean section rate (62%)⁶. Irion O et al found 34% caesarean section rate in a study conducted on 705 singleton term breech presentation.¹⁹

In both diagnosed and undiagnosed groups there was no significant difference in short term neonatal outcome whether they were delivered vaginally or by caesarean section. But there was an increased maternal morbidity observed in patients who had emergency caesarean section. Danialian PJ et al found that there was no significant differences between elective caesarean section and planned vaginal breech delivery in terms of severe handicap or any other outcome measures.²⁰

Comparative studies on breech presentation reveal that if the case is properly diagnosed and managed properly decided then there is no benefit to perform caesarean section in all term breech presentation. Rupture uterus is a

grave obstetric complication with high maternal morbidity and mortality, perinatal mortality and loss of future fertility, as hysterectomy is usually the management in many cases. Improved primary health care services patients will reduce the frequency of undiagnosed breech presentation at term and its associated complications.

CONCLUSION

Undiagnosed breech presentation is associated with increased risk of obstetrical complications and maternal morbidity than diagnosed cases. External cephalic version can reduce the caesarean section rate and its associated morbidity. In selected cases vaginal breech delivery is a safe option.

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