Breech Presentation

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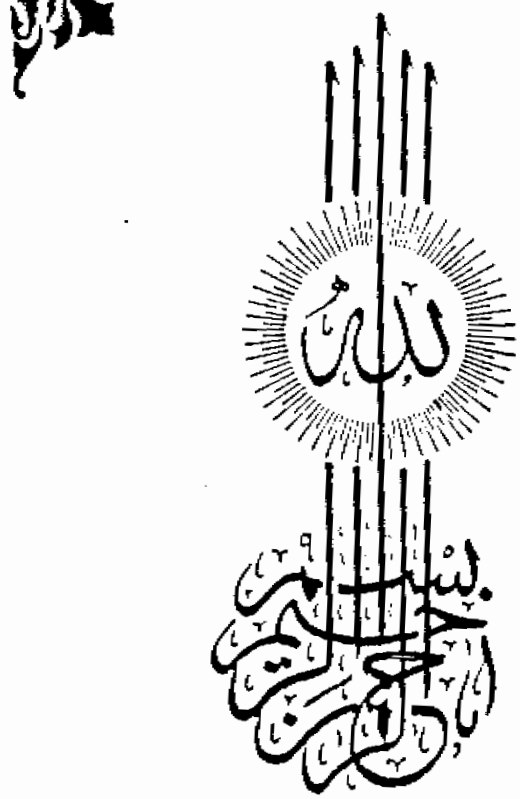

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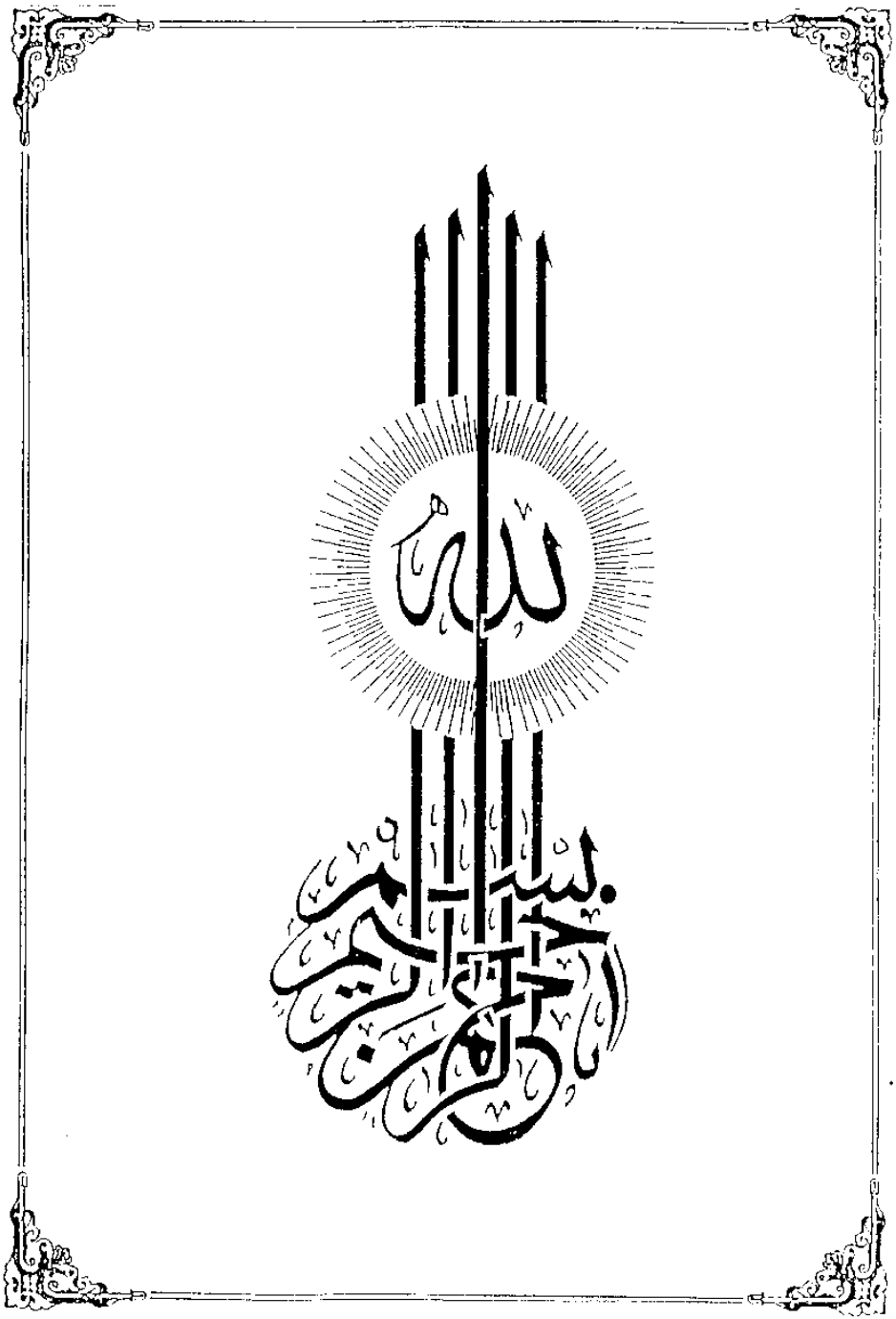

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CONTENTS

INTRODUCTION

To be delivered by the breech for the baby is undignified and unsafe , but about 3 % of individuals enter life in this manner . Successful management of breech presentation and delivery is dependent on early recognition , intelligent anticipation and preparation for any difficulties which may arise *(Hibbard , 1988)* .

It is generally accepted that perinatal mortality and morbidity are increased in infants presenting by the breech as compared with cephalic presentations . *Gimovsky , et al , (1982)* found that the three significant contributors to this perinatal loss are prematurity , congenital anomalies and delivery related trauma .

In persistent breech presentations an increased frequency of the following complications can be anticipated , perinatal mortality and morbidity from difficult delivery , low birth weight from growth retardation or prematurity , prolapsed cord , placenta previa , fetal anomalies , uterine anomalies , multiple fetuses and operative intervention especially cesarean section *(Cunningham et al , 1989)* .

Traumatic vaginal delivery in breech presentations has led to increasing use of cesarean section which has now approached 100 % in some centers *(Green et al , 1982)* .

However , most obstetricians now select patients for vaginal delivery on the basis of gestational age , estimation of fetal weight , X-ray pelvimetry and progress of labor in the first and second stages *(Mohamed , 1988)* .

DEFINITION

Breech presentation is defined as a longitudinal lie in which cephalic pole of the fetus occupies the fundal segment and the caudal or podalic pole lies in the lower uterine segment or within the birth canal *(Percival , 1980).*

INCIDENCE

Breech presentation is common remote from term. The fetus turns spontaneously to a vertex presentation as term approaches. So that breech presentation persists only in about 3-4% of singleton deliveries *(Cunningham et al., 1989). White (1956)* , found the incidence of breech presentation to be 7.2 % by the X-ray at the end of the 34th week .

Rovinsky , et al., (1978) found the incidence of breech delivery in babies weighing over 2,500 gm to be 3.7 % as opposed to 18.5 % for those weighing less than 2,500 gm. *Scheer and Numbar (1976)* found the incidence of breech presentation by sonography 24.9 % at (27 - 28 week) gestation and the incidence gradually decreased as term approaches. They also found an incidence of 6.1 % at (39-40 week) gestation. *Westegren et al* ., (1985) found by sonography at 32nd week of gestation an incidence of 6.7% singleton breech presentation. *Bingham et al., (1987)* found the

incidence of breech presentation to be 2.5 % in 12,462 deliveries excluding twins.

Hill (1990) , found by sonography the incidence of breech presentation to be 24.4 % at (27 - 28 week) gestation. However , *Hikok et al(1992)* , reported an incidence of breech presentation excluding twins to be 21.7 % at (27 - 28 week) gestation and 2.6 % at (39 - 40 week) gestation.They reported the incidence from deliveries and not from ultrasound examination and reported a lower incidence than *Scheer et al (1976) and Hill (1990* Theyconcluded that labor may have an effect on the final presentation of the fetus. From previous studies the incidence of breech presentation is more common , in preterm fetuses and decreases markedly as term approaches. Although gestational age is the single greatest determinant of fetal presentation , other causes have been ascribed , including uterine relaxation as a secondary effect of parity, hydramnios , uterine anomalies (including fibroid) and abnormal placental implantation *(Hichok et al , 1992).*

ETIOLOGY OF BREECH PRESENTATION

A number of fetal factors and maternal factors predispose to breech presentation

Factors which influence the occurrence of breech

The supposed factors are on the part of the mother : pelvic malformations , oligohydramnios , a tendency to arcuate uterus , placenta previa and pelvic tumours and on the part of the fetus : prematurity , twin pregnancy , extension of the legs , malformations and intrauterine death but in some cases none of these conditions is present and in consequence no explanation can be given for the presentation *(Myerscough 1978).*

Maternal factors

Pelvic malformation :

The factor of pelvic malformations was questioned by *Vartan (1945)* in his series of 1000 cases. He doubts whether it has any influence in favoring breech presentation. *Tompkins (1946)* in his series of 677 breeches found 11 % with contracted pelvis. No strong positive correlation has been found between breech presentation and contracted pelvis in most recent reports (Gunningham , et al., 1989). However contracted pelvis enormously increase the risk of breech delivery.

Abnormality of fluid volume

Vartan (1945) , pointed out that the reason for the progressive infrequency of spontaneous version into cranial presentation and the increasing difficulty in performing cephalic version as term draws near , is the relative reduction in the volume of the amniotic fluid. He regarded oligohydramnios as a common feature of breech presentation.

Hofmyer et al., (1986) , found that out of 22 patients with oligohydramnios (in breech presentation) one patient only had spontaneous cephalic version.They also found that oligohydramnios impaired success of external cephalic version. Oligohydramnios restricts fetal mobility and may prevent the fetus taking up its definitive cephlaic presentation as pregnancy advances (Hibbard ,1988). Hydramnios favors a malpresentation *(Myerscough , 1978).* Also *Hibbard (1988)* stated that polyhydramnios allows undue fetal mobility with consequent instability of the fetal lie.

Placenta previa

Placenta previa or any other mass occupying the pelvis may prevent the head from engaging and favors breech presentation *(Hibbard , 1988). Vartan (1945)* showed an incidence of 3.2 % of placenta previa in breech presentation. However , *Tompkins (1946)* found only 8 cases of placenta previa were recorded in 677 births by breeches. *Fianu and Vaclavinkova (1978)* provided sonographic evidence of a very much higher prevalence of implantation of the

placenta in the cornual fundal region for breech pressentation (73 %) than for vertex presentation (5 %).

However *Westegren, et al., (1985)* found no relation between the location of the placenta and persistance of breech presentation. But *Hofmyer (1986)* found that lateral cornual placentation affect the success of spontaneous cephalic version. *Fergusson , et al., (1987)* noted that version rates were reduced if a major portion of the placenta was localized in the cornua. However , *Mohamed , et al.; (1991)* noted that success of external cephalic version (ECV) did not appear to be related to the site of the placenta, also *Luterkort , et al., (1984)* found no evidence that cornual fundal placental implantation is more common among fetuses borne in breech presentation.

Uterine abnormalities

Hibbard (1988) stated that breech presentation is particularly likely to occur in the cylinderical unicornuate uterus. Also , *Myerscough (1978)* stated that the arcuate uterus is certainly a cause although a rare one. *Gimovsky and Paul (1982)* found that uterine anomalies were noted in 11 instances among 245 cesarean sections for breech presentation. From these anomalies bicornuate uterus , septate uterus and arcuate uterus. They also found hyperextension of fetal head was common in uterine anomalies.

Fetal factors

Prematurity , twin pregnancy , extension of the legs , malformation and intrauterine death all are common in breech presentation. Apart from twin pregnancy (in which breech presentation is very common in one or both fetuses) , prematurity is by far the most important single factor. From the thirty second week of pregnancy the incidence of breech presentation declines markedly. The incidence of breech presentation is greatest among infants weighing less than 2500 gm at birth ***(Tompkins 1946 , Rovinsky et al., 1973 and Hickok et al., 1992).***

Westegren et al., (1985) stated that impaired fetal growth during the last trimester seems to favor breech presentation. To be more specific small babies regardless of the period of gestation are more likely to be presented or to be delivered by breech. Furthermore the frank breech (breech with extended legs) becomes progressively more frequent at the expense of the complete breech and the footling presentation. Frank breech have long been recognized as the commonest type of the breech presentations.

It has also been realized that external cephalic version is difficult when the legs are extended ***(Tompkins 1946)***. Extended fetal legs impairs spontaneous cephalic version as well as external cephalic version ***(Westegren et al., 1985 , and Hofmyer et al., 1986).*** It has been suggested that extension of the fetal legs was a

significant factor in the etiology of breech presentation. It has been assumed that the extended legs could prevent the infant from kicking himself round. However , ***Westegren et al., (1985)*** founded that extended legs were closely related with primiparity and the influence of these two factors could not be separated from each other and also stated that it is reasonable to assume that the increased tone in the abdominal wall in primiparas could predispose to extended legs. They stated also that it is difficult to determine if extended legs are primary or secondary factor in the etiology of breech presentation. In controversy , ***Luterkort et al., (1984)*** found no significant difference regarding the frequency of extended legs between breech group and vertex group which were breech and attained spontaneous cephalic version. Parity also may play a role in breech presentation. The likelihood of spontaneous version of breech presentation in the last trimester is closely correlated with parity and whether or not previous breech delivery have occurred ***(Westegren , et al., 1985).***

The inability of the fetus to turn around in primipara is probably due to tense abdominal muscles. Contrarily , in multipara with no previous breech delivery spontaneous version to cephalic presentation occurs frequently.

In the majority of the recurrent breech births it is easy to believe that babies borne to the same mother have similar peculiarities of skeletal structures and intrauterine activity which

account for their type of presentation. Also, recurrent breeches are accounted for by physiological or anatomical characteristics of the mother.

Tompkins (1946) noted that if a chance of a breech birth (for infants over 2500 gm) be taken as 3 %, a mother who has once born a breech baby has a greater than average chance of another breech presentation. ***Tompkins (1946)*** found incidence of 8.9 % breech presentation in those mothers who born previously a breech baby. Also, ***Luterkort , et al., (1984)*** found high repetitive frequency (21 %) of breech presentation in women who had previously an infant in breech presentation.

Lastly on the fetal side there is the relative frequency of malformations in breech deliveries as compared with vertex deliveries. These malformations have a two fold influence: they favor breech presentation, premature labor and are often associated with hydramnios. The incidence of breech presentation is increased in a number of syndromes associated with muscular hypotonia or hypomotility ***(Johnson and Hall 1992). Luterkort et al., (1984)*** concluded that the instance in which a rational explanation for the breech presentation could be found were comparatively few. In the majority of cases no single cause could be identified. None of the proposed explanations of breech presentation as hyperextended fetal legs , cornual fundal placental implantation or oligohydramnios was