

EFFECT OF NON ENGAGEMENT OF THE FETAL HEAD IN A PRIMIGRAVIDA AT ONSET OF LABOUR ON THE COURSE AND SUCCESS OF VAGINAL DELIVERY

Thesis

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Abstract

This study was conducted on 150 primigravidas with unengaged fetal head presented at term in active labor. Any solid indication for cesarean section whether in the mother or the fetus was excluded. These cases were given a full trial of labor and the progress of each was recorded on a partogram. The mode of delivery, the duration of labor (first and second stage), the weight of the new born and the Apgar score were all recorded. Also maternal morbidity and mortality were recorded.

Epidural anesthesia was given to the patients on demand and the effect of it on the mode of delivery, the duration of the first and second stage and the Apgar score was reported.

After collecting the results from our data sheet and analyzing them we found that most of the patients included in the study delivered vaginally (79.3%) and 20.7% only delivered by cesarean section. The primigravida with unengaged fetal head at onset of labor, although at risk for C.S. most of them would deliver vaginally if they were given a full trial of labor and watched carefully.

Key Words :

Antero-posterior - Cesarean section – Intravenous .

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List of abbreviations

Abbreviation	Description
ACOG	American College of Obstetrics and Gynecology
A.F.I	Amniotic fluid index
AP	Antero-posterior
B.P.D	Biparietal diameter
C.P.D	Cephalo-pelvic disproportion
C.S	Cesarean section
E.D.D	Expected date of delivery
I.U.	International unit
I.M.	Intramuscular
I.V.	Intravenous
L.S.C.S	Lower segment cesarean section
L.O.A	Left occipito-anterior
L.O.P	Left occipito-posterior
L.O.T	Left occipito-transverse
L1	Lumbar root number 1
NSAID	Non steroidal anti-inflammatory
NICU	Neonatal intensive care unit
P.V.	Per-vagina
R.O.A	Right occipito-anterior
R.O.P	Right occipito-posterior
R.O.T	Right occipito-transverse
S2-4	Sacral roots from 2 to 4
T10-L1	Thoracic root number 10 to Lumbar root number 1
T8-10	Thoracic roots from 8 to 10

INTRODUCTION

It has been the traditional concept in obstetrics that engagement occurs by 38 weeks in primigravida, and that engagement before the onset of labour will increase the chances of a safe vaginal delivery, and non engagement before the onset of labour will decrease the chances of a safe vaginal delivery. **(Abbasour Z.2005).**

This traditional concept is not correlated in clinical practice. In the majority the engagement occurs between 38-42 weeks or even during the first stage of labour. The incidence is very variable. **(Saropala N and Chaturachinda K.1993).**

Hence controversy still exists over the significance of the fetal head level in early labour, whether it bears any relationship with mode of delivery. **(Ambwani B.M, and Dip.N.B, 2004).**

REVIEW

ANATOMY OF THE PELVIS AND THE FETAL HEAD

The bony pelvis:

In both women and men, the pelvis forms the bony ring through which body weight is transmitted to the lower extremities, but in women it has a special form that adapts it to childbearing.

The pelvis is composed of four bones: the sacrum, coccyx, and two innominate bones. Each innominate bone is formed by the fusion of the ileum, ischium and pubis. The innominate bones are joined to the sacrum at the sacroiliac joint and to one another at the symphysis pubis. (*Williams of obstetrics 22nd edition, 2005*).

Pelvic anatomy:

The pelvis is divided into two parts: the false pelvis; of no obstetrical importance and the true pelvis; which is obstetrically important and the portion important in childbearing.

The false pelvis is bounded posteriorly by the lumbar vertebra and laterally by the iliac fossa. In front, the boundary is formed by the lower portion of the anterior abdominal wall. (*Williams of Obstetrics 22nd edition, 2005*).

The true pelvis is bounded above by the **pelvic brim (inlet)** which has the following boundaries: the promontory and alae of the sacrum, the linea terminalis (iliopectineal lines), and the upper border of the superior pubic ramus, pubic tubercle, upper border of the pubic bone (pubic crest) and the upper border of

the symphysis pubis. It is bounded below by the pelvic outlet. **The outlet** is bounded by bone and ligament including the tip of the sacrum, the sacrotuberous ligaments, the ischial tuberosities and the subpubic arch (formed by the fused rami of ischial and pubic bones). (*Clinical Obstetric and Gynecology, second edition, 2009*).

The descending inferior rami of the pubic bones unite at an angle of 90 to 100 degrees to form a rounded arch under which the fetal head must pass. (*Williams of Obstetrics 22nd edition, 2005*). In the erect posture the pelvic brim is inclined at an angle of 65-70° to the horizontal. Because of the curvature of the sacrum, the axis of the pelvis (the pathway of the descent of the fetal head in labor) is a J-shaped curve. (*Clinical Obstetric and Gynecology, second edition, 2009*).

The cavity of the true pelvis can be described as an obliquely truncated, bent cylinder with its greatest height posteriorly. Its anterior wall at the symphysis pubis measures about 5 cm and its posterior wall about 10 cm.

The walls of the true pelvis are partly bony and partly ligamentous. The posterior boundary is the anterior surface of the sacrum and the lateral limits are formed by the inner surface of the ischial bones and the sacrospinous notches and ligaments. In front, the true pelvis is bounded by the pubic bones, the

ascending superior rami of the ischial bones, and the obturator foramen.

The sidewalls of the true pelvis of an adult woman converge somewhat. Extending from the middle of each ischium are the ischial spines. These are of great obstetrical importance because the distance between them usually represents the shortest diameter of the pelvic cavity. They also serve as valuable landmarks in assessing the level to which the presenting part of the fetus has descended into the true pelvis. (*Williams of Obstetrics 22nd edition, 2005*).

PLANES AND DIAMETERS OF THE PELVIS

The pelvis is described as having four imaginary planes; the plane of the pelvic inlet, the plane of the pelvic outlet, the plane of the mid-pelvis-the least pelvic dimensions, the plane of greatest pelvic dimensions(of no obstetrical importance).

Pelvic inlet:

The pelvic inlet is bounded as follows, posterior by the promontory and alae of the sacrum laterally by the linea terminalis, anteriorly by the horizontal pubic rami and the symphysis pubis.

Four diameters of the pelvic inlet are usually described antero-posterior, transverse, and two obliques. The obstetrically important antero-posterior diameter is the shortest distance between the promontory of the sacrum and the most bulging point on the back of the symphysis pubis, and is designated the **(obstetrical conjugate)** .Normally, this measures 10.5 cm. The other non important anteroposterior diameters are the anatomical anteroposterior **(true conjugate)** which measures 11 cm. and the **(diagonal conjugate)** from the promontory to the lower border of the symphysis pubis and it measures 12.5 cm. The 2 transverse diameters are constructed at right angle to the obstetrical conjugate. The **(anatomical transverse)**,