شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومـــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قَسَـــم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
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To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

FETAL SACRAL LENGTH IN THE ULTRASONOGRAPHIC ASSESSMENT OF GESTATIONAL AGE

Thesis

SUBMITTED FOR PARTIAL FULFILLMENT OF

MASTER DEGREE

IN

Obstetrics & Gynaecology

By

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MENOUFIYA UNIVERSITY

1994

بسم الله الرحمن الرحيم

ولقد خلقنا الإنسان من سلالة من طين ٥

ثم جعلناه نطفة في قرار مكين ٥

ثم خلقنا النطفة علقة فخلقنا العلقة مضغة فخلقنا المضغة

عظاما فكسونا العظام لحما ثم أنشأناه خلقا آخر

فتبارك الله أحسن الخالقين ٥

صدق الله العظيم

سورة المؤمنون (١٢ - ١٤)

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Acknowledgement

First, thanks are all to God for blessing me this work until it has reached its end, as a little part of his generous help throughout my life.

I would like to express my deepest gratitude as I am deeply indebted to my professor and supervisor ***Prof. Dr. Fatma Hassan Abd El-Khalek****, Professor of Obstetrics and Gynaecology, Menoufyia University for her kind moral support, enthusiastic encouragement and help to pursue this effort.*

Also, I am particularly very grateful to ***Professor Dr. Mohamed Adel El-Sayed****, Assistant Professor of Obstetrics and Gynaecology, Menoufiya University, for his sustained support, continuous supervision and unlimited help. Actually, without his generous advice and encouragement, this work could never be done*

I would also like to express my very sincere thanks to ***Dr. Ahmed Nabil Eissa*** *Lecturer of Obstetrics and Gynaecology, Menoufiya University, for his patience, tremendous effort and guidance by the ultrasonogrpahy.*

INTRODUCTION

Estimating the duration of pregnancy is fundamental for the clinical management of the pregnancy. Decision whether to intervene in a post-term pregnancy or to deliver a woman preterm because of concern over maternal or fetal health require fairly precise estimate of gestational age (Berg and Bracken, 1992).

A more important for estimating gestational age is to estimate organ development or maturity, so that prematurity in the newborn can be prevented (Moore et al., 1981).

Despite its fundamental importance to obstetric practice, there is still uncertainty over how best to measure gestational age during pregnancy (Berg and Bracken, 1992).

Many techniques of gestational age estimation are available, ranging from calculations based on the data of the last menstrual period to sonographic measurements of fetal parameters. Each method has its advantages and disadvantages and the stage of pregnancy at which it is most reliable (Attico et al., 1990).

Early attention to appropriate indicators, reinforced by the monitoring of gestational parameters throughout pregnancy leads to a more accurate estimated data of confinement than reliance on a single indicator (Attico et al., 1990).

Discrepancy between fetal size and date should arouse suspicion of specific serious clinical problems (Attico et al., 1990).

The most accurate measurements of fetal age are those made early in the pregnancy, before the individual growth patterns have had much effect on the fetus (Du-Bose, 1991).

AIM OF THE WORK

The aim of this study is to compare measurement of sacral length with other parameters which determine gestational age to find out whether sacral length can predict a much more precise estimate of gestational age between the 14th and 40th week of gestation.

CHAPTER I

FETAL GROWTH

- Fetal Development
- Abnormal Fetal Growth

FETAL GROWTH

Ultrasound has given and continues to give fresh insight into many aspects of the developing embryo. The area of fetal development is a difficult one, but ultrasound has at least allowed investigators to begin to scratch the surface of this complex subject. It can now be possible to obtain very useful clinical information that usually has excellent correlation with gestational age, fetal size, fetal structure and fetal function that allow to document the natural history of many fetal abnormalities (Otto and Platt, 1991).

Early Fetal Development

The ovum is fertilized in the ampullary portion of the fallopian tube about 12-14 hours after ovulation, which occurs approximately 14 days after menstruation. The **zygote** then begins its migration 3 to 4 days into the uterus. During that time, the zygote undergoes mitotic division and cleavage, developing from its two-cell stage to a **morula** composed of 12-16 cells (Merz, 1991).

By the 20th postmenstrual day, (day 6 after conception), the zygote has formed a **blastocyst**, a fluid filled cyst containing an outer cell layer (trophoblast) and an inner cell mass (embryoblast) and implantation occurs as the blastocyst burrows into the thick secretory endometrium. By the 23rd postmenstrual day, implantation is completed i.e. the blastocyst is deeply embedded in the endometrium (Merz, 1991).

With development, the trophoblast gains attachment to the maternal sinusoids during the 4th postmenstrual week, forming a primitive uteroplacental circulation. Meanwhile, the embryoblast develops into a **bilaminar embryonic disc** with an ectoderm and endoderm, and the amniotic cavity and primary yolk sac are formed (Merz, 1991).

By the end of the 4th week, the much smaller secondary yolk sac forms, surrounded by the extraembryonic coelom, the chorionic cavity. During the 5th week, the mesoderm forms, producing a **trilaminar disc** (Merz, 1991).
During weeks 6 to 10, the trilaminar disc acquires the tubular body shape of the embryo with all organ system established (Merz, 1991).

In the 7th week, the extremities appear as a paddle shaped buds. In the 8th week, the liver completely fills the abdominal cavity, the rapidly growing small intestine is extruded into the