

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Sudan University of Science and Technology
College of Graduate studies



***Measurement of Placental Thickness by
Ultrasound in the third trimester***

قياس سُمك المشيمة بالموجات فوق الصوتية في
الثلث الأخير من الحمل

***A thesis submitted in Partial fulfillment for the requirements of the
award of M.Sc in Medical Diagnostic Ultrasound***

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بسم الله الرحمن الرحيم

قال تعالى :

((ولا تقف ما ليس لك به علم أن
السمع والبصر والفؤاد كل أولئك كان
عنه مسئولا))

(صدق الله العظيم)

سورة الإسراء
الآية (35)

Dedication

To the soul of my mother

To the beloved father

To my brothers and sisters

.To my wife and son

Acknowledgement:

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:Abbreviation

Abbreviation	Stand for
AC	.Abdominal circumference
APH	.Antepartum Hemorrhage
BPD	Biparietal Diameter
CD	.Color Doppler
CM	.Centimeter
CNS	.central Nervous System
CRL	.Crown Rump Length
C-s	.Cesarean Section
EVS	.Endovaginal Sonography
FL	.Femur Length
FMC	.Focal Myometrial Contraction
GA	.Gestational Age
G	.Gram
HC	.Head Circumference
HCG	.Human Chorionic Gonadotropin
HCS	Human Chorionic Somatomammotropi
IUGR	.Intrauterine Growth Retardation
LMP	.Last Menstrual Period
MFI	.Maternal Floor Infarction
MHz	.Mega Hertz
PD	.Power Doppler
SCH	.Subchorionic Hematoma
TGC	Time Gain Compnasetor
TPS	.Transperineal Sonography
US	.Ultrasound

:ABSTRACT

This study was conducted with aim of evaluating placental thickness, measured at the insertion of the umbilical cord, as a parameter for estimating gestational age of the fetus. The study was conducted on 100 women with normal singleton pregnancies in the third trimester at Elnohoud teaching Hospital and Hamdeen's clinic from 25\7\2007 to 13\12\2007, Ultrasound was done by using Toshiba just vision 200 with 3.75 MHz convex probe and Tokimec cs-2020 with 3.5MHz probe. After estimating the fetal age (in weeks) by using biparietal diameter (BPD), femur length (FL), the placental thickness was calculated (in millimeters) during third trimester. It was observed that the placental thickness in millimeters in all patients along with the third trimester has positive linear correlation with gestational age in weeks. We concluded that the measurement of the placental thickness is an important parameter for estimating gestational age in the third trimester in normal singleton pregnancies along with other parameters like BPD, FL, AC & HC where the exact duration of pregnancy is not known.

الخلاصة

أُجريت هذه الدراسة بغرض قياس سُمك المشيمة، عندما تلتقي بالحبل السري، كمؤشر لتقدير عمر الحمل بالنسبة للجنين. ل قد أُجريت هذه الدراسة على مئة من النساء الحوامل حملاً احاديا طبيعياً في الثلث الثالث من فترة الحمل وذلك بمستشفى النهود التعليمي وعيادة حامدين في الفترة من 25\7\2007 إلى 13\12\2007، و قد تم استخدام جهاز توشيا جست فيشن 200 للكشف بالموجات فوق الصوتية مع مجس (أو مسبار) محدب 3.75 مي قاهيرس وجهاز توكمك سي إس 2020 مع مجس 3.5 مي قاهيرس. ل قد حُسب سُمك المشيمة (بالمليمتر) في الثلث الثالث من عمر الحمل بعد تقدير عمر الجنين (بالأسابيع) باستخدام قطر جانبي الدماغ وطول عظم الفخذ، ولوحظ أن سُمك المشيمة بالمليمترات في كل النساء السودانيات اللائي حملن حملاً احاديا طبيعياً يتطابق تطابقاً تاماً مع عمر الحمل بالأسابيع. ومن هنا نخلص إلى أن م قياس سُمك المشيمة يُعد مؤشراً هاماً من مؤشرات تقدير عمر الحمل، هذا بالإضافة إلى مؤشرات أخرى مثل قياس القطر الجانبي للدماغ، طول عظم الفخذ، محيط البطن وغيره من غير أن تكون مدة الحمل معروفة بالضبط.