الآية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قال تعالى:

{ثُمَّ خَلَقْنَا النُّطْفَةَ عَلَقَةً فَخَلَقْنَا الْعَلَقَةَ مُضْغَةً فَخَلَقْنَا الْمُضْغَةَ عِظَامًا فَكَسَوْنَا الْعِظَامَ لَحْمًا ثُمَّ أَنشَأْنَاهُ خَلْقًا آخَرَ فَتَبَارَكَ اللَّهُ أَحْسَنُ الْخَالِقِينَ}

صدق الله العظيم

سورةالمؤمنون الاية (١٤)

Dedication

I dedicated this work to:

My mother,,,, my mother,,,, my mother

Soul of my father

Great Family

Teachers and colleagues

All those who deeply admire on Great God's Creations.

.

Acknowledgement

My thanks and grace for Allah who plant us from earth.

First, I would like to express my deep gratitude and sincere thanks to my Supervisor/Dr. Babiker Abd Elwahab for his support and advice during the steps of preparation and writing the chapters of this study.

Thank to Dr. Hwaida Ahmed for his co-operative**.**

Abstract

This a descriptive study was carried out at ultrasound department in dream hospital in the period from June – august (2019) , in which 70 pregnant women were examined in their late second and third trimesters, with singleton pregnancy, healthy mother and fetus, were examined in their gestational age group (26 Ws up to full term verified clinically by last menstrual period (LMP).

The study aimed to assess the reliability of the femoral and humeral length measurement to estimate the gestational age. This study used the real time ultrasound equipments with 3.5 MHZ probe.

The study revealed that there was a strong positive correlation between gestational age (LMP) and humeral length. Also strong correlation was found between the gestational age and femoral length, there was no significant difference between humeral length and femoral length. The estimation of gestational age with fetal humeral length and femoral length still remain the most common measurements to assess the fetal growth. The fetal humeral length is an accurate biometry as well as femoral length. Evaluation of gestational age with humeral length and femoral length joined together is more accurate than using femoral length alone.

The study recommended that using of Humerus Length measurement in estimating gestational age. Also to give more attention for practicing &training the students, medical staff and technologists about humerus measurement technique of taking Gestational Age from HL in hospital practicing.

مستخلص البحث

هذه الدراسة الوصفية اجريت بقسم الموجات فوق الصوتية في مستشفى دريم التخصصي في الفترة من يونيو وحتى اغسطس ٢٠١٩. شملت هذه الدراسة عدد ٧٠ امرأة سودانية حامل، على ان تكون خالية من الامراض التي تؤثر على نمو الجنينن الطبيعي(مثل السكري والضغط) وجنينها، وان تكون ذات حمل مفرد، وان تكون على علم باخر دورة شهرية، وان يكون في فئة عمرية من ٢٦ اسبوع وحتى نهاية الحمل.

هدفت هذه الدراسة لتقييم مدى دقة استعمال قياس عظم الفخذ وعظم العضد الجنيني لتحديد عمر الجنين، وتحليل قياسات عظم الفخذ كطريقة فعالة في تحديد عمره. استخدمت في هذه الدراسة اجهزة الموجات فوق الصوتية ذات عرض الزمن الحقيقي بتردد ٣,٥ ميقاهيرتز.

استخدمت معادلة اختبار العلاقات عن طريق متوسط عمر الجنين والانحراف المعياري للجنين لتقييم مدى دقة قياس طول عظم العضد في تقدير عمر الجنين مقارنة بقياس عظم الفخذ وتاريخ اخر دورة شهرية، وتوصلت الدراسة الى ان متوسط عمر الجنين بواسطة اخر دورة شهرية(٣٠,٦٣) اسبوعا بانحراف معياري (٤,٢٤٣±) ومتوسط عمر الجنين عن طريق قياس عظم العضد بالاسابيع(٣٢,٢٦) بانحراف معياري(6.180±) ومتوسط قياس عمر الجنين عن طريق عظم الفخذ بالاسابيع(٣٢,٦٦) بانحراف معياري(٥,٤٧±).

توصلت الدراسة الي ان هنالك علاقة قوية بين عمر الجنين باستخدام قياس عظم الفخذ وعمر الجنين باستخدام قياس عظم العضد عند مستوى ثقة ٩٩% وعمر الجنين باستخدام قياس عظم العضد عند مستوى ٩٨%.

اوصت الدراسة باستخدام قياس عظم الفخذ لتقدير العمر الحملي، كما اوصت بإكتساب اختصاصي وتقني الموجات فوق الصوتية المزيد من الخبرة في كيفية اجراء قياسات الجنين اثناء الحمل بواسطة الموجات فوق الصوتية لأنها تعتبر أداة اساسية لمراقبة نمو وتطور الجنين وصحة الام الحامل.

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List of abbreviations

Abdominal circumference	AC
Actual date of delivery	ADD
Biparietal diameter	BPD
Cavum septi pellucid	CSP
Crown Rump length	CRL
Expected delivery date	EDD
Femoral length	FL
Gestational age	GA
Grand multipara	GM
Gravidity	G
Head circumference	HC
Humeral length	HL
Last menstrual period	LMP
Mega – hertz	MHZ
Patient	Pt
Standard deviation	SD
Ultrasound	US
Weeks	Ws