Sudan University of Sciences and Technology
(SUDAN)
College of post – graduate studies
In collaboration with Afro-Asian Institute of
Medical Sciences. Lahore-Pakistan

Normal Fetal Biometry in Third Trimester
Pregnancy of Healthy Yemeni Women

Thesis

Submitted in accordance with the conditions governing
Candidates for the degree of master in diagnostic ultrasound
in the Sudan university of sciences and technology

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June 2006
بسم الله الرحمن الرحيم

(و لقد خلقنا الإنسان من سلالة من طين * ثم جعلناه نطفة في قرار مكين * ثم خلقنا النطفة علقة فخلقنا العلقة مضغة فخلقنا المضغة عظاما فكسوهما العظام لحما ثم انشأ ناه خلقا آخر فتبارك الله أحسن الخالقين)

المؤمنون (14—12)

ملخص البحث

يعد هذا البحث محاولة متواضعة تهدف إلى إنشاء و تأسيس جداول معيارية لقياسات الجنين في بطن أمه الحامل في شهرى الثالثة الأخيرة من الحمل (من 28 إلى 40 أسبوع) ، وذلك بالفحص بالمواجات فوق الصوتية و أخذ القياسات الحيوية الرئيسية للجنين و المتمثلة في قياس جانبى الرأس BPD ، و محيط الرأس HC ، و محيط البطن AC ، وأخيرا طول عظمة الفخذ للجنين FL ، وكذلك تحديد جداول الموزونات (percentiles) الطبيعية للجنين لكل BPD, HC, AC, FL من خلال تحليلات الخصائص الكبيرة ذات أهمية و العوامل المؤثرة.

و قد شمل الفصل الأول من البحث على مقدمه تتحدث حول وضع اليمن كدولة نامية ذات خصائص ديموغرافية و طبيعية و اجتماعية مميزة. مع شرح الوضع الصحي في اليمن بصفة عامه و العوامل المؤثرة.
Abstract

OBJECTIVE: This research is an attempt to establish fetal ultrasound biometry charts for normal Yemeni fetuses between 28 - 40 weeks of gestation. METHOOD: Cross-sectional fetal ultrasound data of normal singleton pregnancies which had been preformed over a period of 6 months, where retrieved. Only pregnant Yemeni healthy women aged 20-35 years with certain last menstrual period dates were included. Each fetus contributed to only one set of data. The mean predictive values and standard deviations of normal ranges for biparietal diameter (BPD), head circumference (HC), abdominal circumference (AC), and femur length (FL) were calculated. The mean and 5th and 95th percentiles for each fetal biometry were established. Fetal charts with the raw data for each measurement with superimposed fitted lines derived from...
polynomial (quadratic) regression were constructed. Quadratic model showed good fit to the data during construction of fetal charts. RESULT: The new fetal measurement charts and new reference mean, 5th, and 95th centile charts for BPD, HC, AC, and FL have been established and compared with previously published data emphasizes the presence of significant variation in fetal morphometric measurements overall these gestational weeks (28-40), they were clearly lower than those widely used charts (hadlock charts).

CONCLUSION: The clinical significance of this variation differs according to the primary objective of ultrasound fetal measurements. For estimation of fetal age, usually by head and femur measurements in third trimester seems to have limited significance. Whereas for estimation of fetal growth and/or weight, based on the abdominal circumference, the use of other population charts has the potential of either over-or under diagnosis of abnormal growth of fetuses. This showing the importance of racial differences between populations and elucidates the need to develop fetal biometries charts for each region.

Dedicated to:

To my parents:
To my family:

For all you did for me, can not be thanked in words
Acknowledgments

I would like to take this opportunity to express my sincere appreciation and deep gratitude to my ankle Mr. Abdulla A. Murshed, for his guidance, continuous encouragement, and support during the course of my study and work.
I would like also to extend my thanks and appreciation to my brother- in- law who I consider him as my father Dr. Mohamed Sharaf and to all members of staff and colleagues of the ultrasound department for their cooperation.

My deep gratitude is also due to my family and friends for their continuous moral support and encouragement.

Finally and above all to ALLAH.

Dr. Eman Ahmed Murshed  
M.B;ch.B

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- (G.A.) Gestational Age: Age in weeks from the first day of mother’s last menstrual period (L.M.P.) until the day of birth.
- (L.M.P.): Last menstrual period.
- B.P.D.: Biparital diameter.
- BPDc.: Corrected biparital diameter.
- S.D.: Standard deviation
- S.E.: Standard error.