



شبكة المعلومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ





شبكة المعلومات الجامعية



شبكة المعلومات الجامعية

التوثيق الالكتروني والميكرو فيلم

جامعة عين شمس

التوثيق الالكتروني والميكرو فيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون أية تغيرات



يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %



شبكة المعلومات الجامعية



بعض الوثائق الأصلية تالفة



شبكة المعلومات الجامعية



بالرسالة صفحات
لم ترد بالأصل

**Ultrasonographic and Doppler Hemodynamic Study of
Fetuses of Diabetic Women and Its Relation to the Fetal
Outcome**

Thesis

**Submitted in Partial fulfillment of
M.D. Degree**

In

Obstetrics and Gynecology

By

Aida Mohsen Tawfik Megahed
M.B.B.Ch., M.Sc. (Ain Shams University)

Supervised by

Prof. Dr. El Sayed El Sayed El Mahgoub

Professor of Obstetrics and Gynecology
Ain Shams University

Prof. Dr. Sherif Mohamed Saleh El Ghitany

Professor of Obstetrics and Gynecology
Ain Shams University

Dr. Alaa El-Din Abd- Aziz El-Guindy

Assistant Professor of Obstetrics and Gynecology
Ain Shams University

Faculty of Medicine
Ain Shams University

2000

A-T
M
Z

B a o l n

[

b

s

u

u

u

v

r

Acknowledgment

I would like to express my great gratitude to *Prof. Dr. El Sayed El Sayed El Mahgoub*, Professor of Obstetrics and Gynecology, Faculty of Medicine, Ain Shams University, for his kind supervision, encouragement and for his valuable precious time he spent in guiding and directing me during this work.

I am particularly thankful to *Prof. Dr. Sherif Mohamed Saleh El Ghitany*, Professor of Obstetrics and Gynecology, Faculty of Medicine, Ain Shams University, for his indispensable guidance in choosing and initiating this work.

would like to express my deepest gratitude and profound thanks to *Prof. Dr. Alaa El Din Abd El Aziz El Guindy*, Assistant Professor of Obstetrics and Gynecology, Faculty of Medicine, Ain Shams University, for his sincere help, kind supervision and continuous support.

I would like to express my sincere appreciation and deep gratitude to *Prof. Dr. Saied Mohamed Tohamy*, Professor of Obstetrics and Gynecology, Head of the Special Care Center of the Fetus, Faculty of Medicine, Ain Shams University, for his supervision, helpful and carefulness,

Finally, I wish to express my thanks to all staff members of Obstetrics and Gynecology, Faculty of Medicine, Ain Shams University, my professors and my colleagues for their valuable assistance, cooperation and advice during the study.



List of Figures

<i>Figure No.</i>	<i>Details</i>	<i>Page No.</i>
1	Illustration of the Doppler effect: change of frequency due to the movement of the reflector.	36
2	Scattering of ultrasound yields multiple backscattered wavelets	37
3	Relation between ultrasound beam and the flow	39
4	Real-time Doppler spectrum. Ordinary is the Doppler shift; abscissa is the real time.	40
5	Doppler shift spectra in real -time	40
6	Spectrum parts used in the calculation of RI and PI.	43
7	Continuous wave (CW) and pulse (PW) Doppler.	43
8	Umbilical artery blood flow. Color umbilical artery on the left and pulsed Doppler blood flow signal of blood flow on the right characterised by high end diastolic blood flow.	49
9	Increased placental resistance presented as increased impedance in umbilical artery. Umbilical artery color coded red on the left, and reduced end-diastolic blood flow on the right.	49
10	Increased placental resistance presented as increased impedance in umbilical artery. Umbilical artery color coded red on the left, and reduced end-diastolic blood flow on the right.	51
11	Intrauterine growth retardation at 31 weeks gestation. on the left color coded blood flow in umbilical artery, and pulsed Doppler analysis of the flow on the right. Absence of end diastolic blood flow presents increased vascular impedance and placental insufficiency.	51
12	Severe placental insufficiency presented as reversed blood flow in umbilical artery.	52
13	Blood flow in fetal aorta coded by color Doppler technique 9 red.	64
14	Normal blood flow in fetal aorta. On the left side color fetal aorta (red) and on the right Doppler signal obtained from the same vessel. End diastolic blood flow is characteristically present.	64
15	Intrauterine growth retardation at 36 weeks. Reversed blood flow in fetal aorta is characteristic for fetal hypoxemia,	65
16	Transverse scan of the fetal head at 36 weeks of pregnancy. Color coded vessels of circulus arteriosus of Villis (red and blue).	70
17	Normal blood flow in the middle cerebral artery. Diastolic component is present but there is no marked end diastolic blood flow.	70

List of Tables

<i>Table No.</i>	<i>Details</i>	<i>Page No.</i>
1	Some general characteristics of insulin. Dependent (type1) and non-insulin dependent (type 2) diabetes mellitus	6
2	Classification of diabetes complicating pregnancy	8
2'	American college of obstetricians and gynecologists (1994) criteria for diagnosis of gestational diabetes using 100g of glucose taken orally.	11
3	Congenital Anomalies in Infants of Diabetic Mothers (Reece et al., 1988)	16
4	Umbilical artery Doppler	52
5	Fetal Aorta Doppler	65
6	Cerebral Vessels	71
7	Technique and interpretation of biophysical profile.	95
8	Apgar scoring system for evaluation of the neonatal condition (Apgar, 1953).	99
9	Statistical comparison between group (I) and group (A) as regards age and parity	101
10	Statistical comparison between group (I) and group (B) as regards age and parity	101
11	Statistical comparison among the 3 groups as regards biophysical profile score (BPP)	101
12	Statistical comparison among the 3 studied groups as regard to umbilical artery (RI)	105
13	Statistical comparison among the 3 studied groups as regards umbilical artery pulsatility index (PI)	107
14	Statistical comparison among the 3 groups as regards descending aorta resistance index (RI)	109
15	Statistical comparison among the 3 groups as regards descending aorta pulsatility index(P.I)	111
16	Statistical comparison among the 3 groups as regards middle cerebral artery resistance index(R.I)	113
17	Statistical comparison among the 3 groups as regards middle cerebral artery pulsatility index (P.I)	115
18	Statistical comparison among the 3 groups as regards cerebroplacental resistance ratio	117
19	Statistical comparison among the 3 groups as regards cerebroplacental pulsatility ratio	119
20	Statistical comparison among the 3 groups as regards uterine artery resistance index (RI)	121
21	Statistical comparison among the 3 groups as regards uterine artery pulsatility index (P.I)	123

Introduction & Aim of the work

11