



شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم



شبكة المعلومات الجامعية
@ ASUNET



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكرو فيلم

قسم

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



يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

To be Kept away from Dust in Dry Cool place of
15-25- c and relative humidity 20-40%

بعض الوثائق الأصلية تالفة

بالرسالة صفحات لم ترد بالاصل

**Doppler Blood Flow dynamics in the ovarian
and uterine arteries in polycystic ovarian
disease under induction of ovulation**

Thesis

Submitted in partial fulfillment for the
M.D. Degree in Obstetrics and Gynecology



By

Ghada Mahmoud Mansour

M.B., B.ch and M.Sc.

Supervisors

Prof. Khaled El-maamon El-Houdaiby

Professor of Obstetrics and Gynecology

Faculty of medicine

Ain Shams university

Prof. Ahmed Ismail Abou-Gabal

Professor of Obstetrics and Gynecology

Faculty of Medicine

Ain Shams university

Prof. Essam Mohamad Khater

Professor of Obstetrics and Gynecology

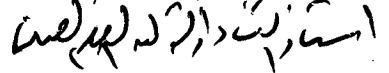
Faculty of Medicine

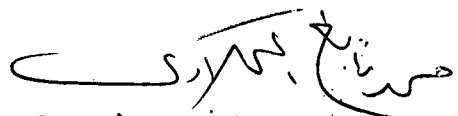
Ain Shams University

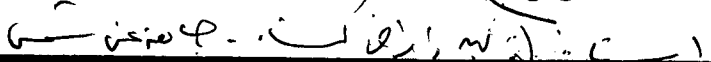
Faculty of Medicine
Ain Shams University

2002









بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

وَقُلْ رَبِّ زِدْنِي عِلْمًا

صَلَّى اللَّهُ الْعَظِيمِ

(سورة طه الآية ١١٤)

Acknowledgments



*I wish to express my deep indebtedness and gratitude to Prof. Khaled El-Maamon El-Houdaiby, **professor of obstetrics and gynecology, Ain Shams University**, for honoring me by his supervision on this work, his greatest support, help, and all his sincere efforts he offered to me to get this work out to light.

* I would also express my sincere thanks and deepest appreciation to Prof. Ahmed Ismail Abou-Gabal, **Professor of obstetrics and gynecology, Ain Shams University**, for the greatest help and effort he offered to me in this work and for his precious comments and guidance, in each aspect of it.

*I would also express much thanks and respect to Prof. Essam Mohamad Khater **professor of, obstetrics and gynecology, Ain Shams university**, for his great help and effort, and guidance in this work.

Contents

Introduction.....	1
Aim of Work.....	3
<u>Review of Literature</u>	
Reproductive hormones	4
Regulation of the ovarian menstrual cycle	7
Polycystic ovarian syndrome	20
Wider health implications of PCOD	48
Developments in ultrasound imaging	50
Doppler ultrasound	52
Polycystic ovaries by ultrasound	59
Ovarian vasculature and Doppler ultrasound assessment of it..	60
Uterine vasculature and Doppler ultrasound assessment of it ..	64
Subjects and methods	74
Results	78
Discussion	105
Summary	118
References.....	121
Arabic Summary	144

List of Figures

	<u>page</u>
Fig 1: The interaction between different hormones affecting the ovary	5
Fig 2: Components of normal menstrual cycle	7
Fig 3: Interrelationships between hypothalamic, pituitary and ovarian hormone patterns during the menstrual cycle ..	8
Fig 4: Ovarian and uterine events of the menstrual cycle	9
Fig 5: Steps of folliculogenesis	11
Fig 6: The differential regulation of gonadotropin subunit Genes by GnRH	27
Fig 7: Follistatin and its binding to activin and inhibin	28
Fig 8: Mechanism of hyperandrogenism in ovarian theca cells	31
Fig 9 : The chart for clinical assesments of relative adiposity by calculating body mass index.	41
Fig10: Illustration of the Doppler effect: change of frequency due to movement of reflector	53
Fig 11: Scattering ultrasound yields multiple backscattered wavelets	54
Fig 12: Relation between ultrasound beam and the flow.	54

Fig 13: Continuous wave (CW) and pulsed wave (PW) Doppler	56
Fig 14: Age distribution among 20 females	79
Fig 15 : Distribution of RI of arteries before induction of ovulation	88
Fig 16 : Loss of diastolic flow in ovarian artery	89
Fig 17 : Preserved diastolic flow in ovarian artery.	89
Fig 18: Left uterine artery RI: 0.89	90
Fig 19: Right uterine artery , loss of diastolic flow... ..	90
Fig 20: Distribution of RI of arteries after induction of ovulation	91
Fig 21 : Resistance indices of follicular blood flow in 7 cases responded to induction.....	92
Fig 22: Follicle blood flow RI: 0.43 (Theca interna blood flow), mainly basal.. .	93
Fig 23 : Follicle blood flow RI: 0.44 (Theca interna blood flow), apical site.. .	93
Fig 24 : Apical blood flow of follicle	94
Fig 25 : Follicular blood flow	94
Fig 26: Power Doppler of ovary before induction of ovulation ...	95
Fig 27 : Power Doppler of ovary after induction of ovulation and follicle formation.....	95