Ain Shams University
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OVULATION INDUCTION WITH HUMAN MENOPAUSAL GONADOTROPIN AFTER PITUITARY SUPPRESSION BY GONADOTROPIN RELEASING HORMONE AGONIST VERSUS CLOMIPHENE CITRATE AND HUMAN MENOPAUSAL GONADOTROPIN IN POLYCYTIC OVARIAN DISEASE

THESIS

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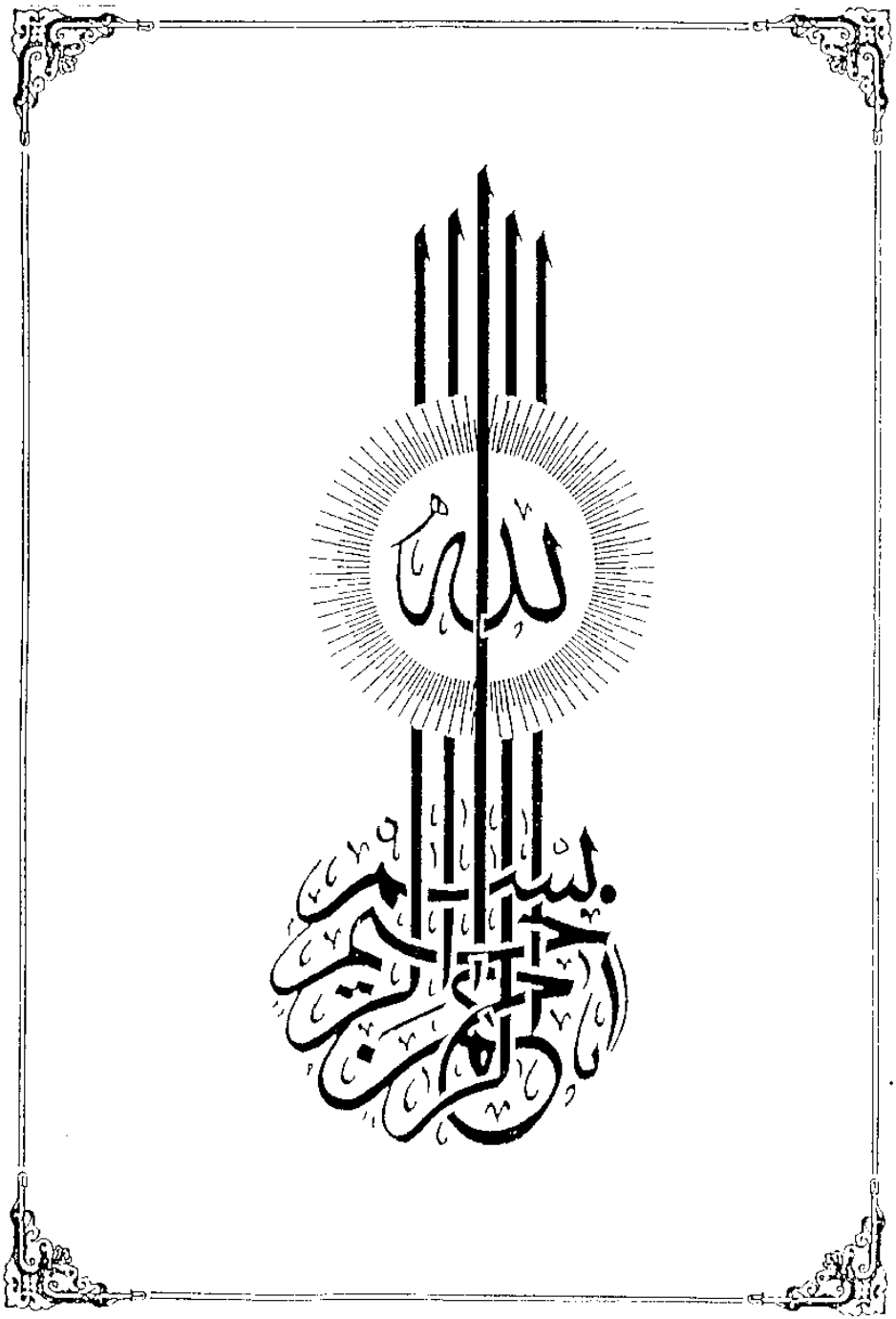
بسم الله الرحمن الرحيم

«لله ملك السموات والأرض يخلق ما يشاء يهب لمن يشاء إناثا ويهب لمن يشاء الذكور (٤٩) ، أو يزوجهم ذكرانا وإناثا ويجعل من يشاء عقيماً إنه عليم قدير (٥٠)»

صدق الله العظيم

سورة الشورى : الآيات ٤٩ ، ٥٠



To whom who give me

Love and kindness

To my Parents

and my Husband.

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LIST OF ABBREVIATIONS

ACTH	Adrenocorticotrophic hormone
BBT	Basal body temperature
CAH	Congenital adrenal hyperplasia
CASH	Cortical androgen stimulating hormone
CC	Clomiphene citrate
CNS	Central nervous system
DES	Diethylstilbesterol
DHEAS	Dehydroepiandrosterone sulfate
DHT	Dihydrotestosterone
E_2	Oestradiol
FSH	Follicle stimulating hormone
GF	Growth factor
GnRH	Gonadotropin releasing hormone
GnRHa	Gonadotropin releasing hormone analogues
GnRIH	Gonadotropin releasing inhibitory hormone
HCG	Human chorionic gonadotropin
HIGFBP-1	Human insulin like growth factor-1 binding protein
HMG	Human menopausal gonadotropin

IGF-1	Insulin like growth factor
IVF-ET	In vitro fertilization and embryo transfer
LH	Luteinizing hormone
LHRH	Luteinizing hormone releasing hormone
LPD	Luteal phase dysfunction
OHSS	Ovarian hyperstimulation syndrome
P	Progesterone
PCOD	Polycystic ovarian disease
SHBG	Sex hormone-binding globulin
Sm-C	Somatomedin C

Introduction

INTRODUCTION

Polycystic ovarian disease (PCOD) is a condition with exaggerated steady state of tonic gonadotropin and estrogen function associated with persistent anovulation (*Rebar et al.*, 1976).

Clinically, it is characterized by chronic anovulation which is the main hallmark of the disease, symptoms of this include amenorrhea, infertility and functional bleeding. There is a lot of theories regarding the pathophysiology of PCOD (*Rebar et al.*, 1976).

Induction of ovulation whether medical or surgical is considered to be a management for chronic anovulatory state (*Hoult et al.*, 1981; *Diamond et al.*, 1986).

Clomiphene citrate has been used in different doses 50, 100, 150 mg per day for ovulation induction (*Hoult et al.*, 1981; *Diamond et al.*, 1986).

Treatment with clomiphene citrate alone or in combination with human menopausal gonadotropin (HMG) is probably the most popular superovulation regimen in current use in I.V.F. programs (*Quigley et al.*, 1983; *Lopata*, 1983).

The use of HMG starting early in follicular phase and continued until satisfactory response is attained as judged by ultrasound and estradiol assay, then human chorionic gonadotropin (HCG) is injected to induce ovulation (*Laufer et al.*, 1983) when estradiol level ≥600 pg/ml and 2 follicles ≥18 mm.

In ovulation induction program to induce pharmacological hypophysectomy through suppression of pituitary function with the use of gonadotropins as an exclusive source of ovarian stimulation. Luteinizing hormone releasing hormone (LHRH) analogues were suggested to be used in different ways, to induce pituitary suppression and to enhance endogenous gonadotropin secretion using pulsatile LHRH infusion, also to replace HCG administration in midcycle (*Jones et al.*, 1985).

Aim of the Work