List of Contents

Contents

Subjects	Page
List of abbreviations	II
List of figures	V
List of tables	VII
• Introduction	1
Aim of the work	3
• Review of Literature	
◆ Chapter (1): Polycystic Ovary Syndrome	4
♦ Chapter (2): Sildenafil Citrate	33
◆ Chapter (3): Induction of Ovulation in PC	O49
Patients and Methods	70
• Results	84
• Discussion	110
• Summary	122
• Conclusion	126
• Recommendations	127
• References	128
Arabic Summary	

List of Abbreviations

List of Abbreviations

3b-HSD : 3b-hydroxysteroid dehydrogenase

17-OHP : 17α -hydroxyprogerterone

AE-PCOS: Androgen Excess and PCOS Society

ASRM : American Society for Reproductive Medicine

BMI : Body Mass Index

c AMP : Cyclic adenosine monophosphate

c GMP : Cyclic guanosine monophosphate

CC : Clomiphene citrate

CHD : Coronary heart disease

CHO : Chinese hamster ovary

CTP : C-terminal peptide

CVS : Cardiovascular syndrome

DHEA: Androstenedion, dehydroepiandrostenedion

DHEAS : Dehydroepiandiosterone sulfate

ERAP1 : Endoplasmic reticulum amino peptidase 1

ESHRE : European Society of Human Reproduction and

Embryology

List of Abbreviations

FDA : Food and Drug Administration

GnRH : Gonadotropin-releasing hormone

hCG: Human chorionic gonadotropin

hMG : Human menopausal gonadotropins

HPG: Hypothalamic-pituitary gland

HP-hFSH: Highly purified human urinary follicle stimulating

hormone

IGF-I : Insulin-like growth factor I

LH : Luteinizing Hormone

MI : Myocardial infarction

NHANES : National Health and Nutrition Examination Survey

NICHD : National Institute of Child Health and Human

Development

NO : Nitric oxide

OGTT : Oral glucose tolerance test

PCOS : Polycystic ovary syndrome

PDEs : Phosphodiesterases

PI : Pulsatility index

RI : Resistance index

List of Abbreviations

RTI : Respiratory tract infection

SC : Subcutaneous

SHBG : Secretion of sex hormone-binding globulin

SNP : Single nucleotide polymorphisms

TNF-a : Tumor necrosis factor-a

WHO: World health organization

List of Figures

List of Figures

No.	<u>Figure</u>	Page
1	Cyclic pattern of hormone concentration in women with chronic anovulation.	7
<u>2</u>	Potential mechanisms underlying the development of PCOS.	9
<u>3</u>	Insulin resistant in polycystic ovary syndrome.	16
<u>4</u>	Hyperandrogenism in polycystic ovary syndrome.	20
<u>5</u>	Hirsutism in PCOS.	23
<u>6</u>	Chemical structure of sildenafil citrate.	33
<u>7</u>	Mean Sildenafil Plasma Concentrations in Healthy Male Volunteers.	37
<u>8</u>	Difference in LH-surge after GnRH-agonist triggering when compared with a natural cycle.	69
9	Flow chart of the groups distribution.	74
<u>10</u>	Mean folliculometric measures at day 11 and day 13 in the two study groups.	88
<u>11</u>	Mean endometrial thickness in the two study groups.	89
<u>12</u>	Endometrial pattern in both study groups.	91
<u>13</u>	Mean subendometrial and UA RI in the two study groups.	93
<u>14</u>	Mean subendometrial and UA PI in the two study groups.	94
<u>15</u>	Pregnancy rate in the two study groups.	96

List of Figures

No.	<u>Figure</u>	<u>Page</u>
<u>16</u>	Incidence of drug-related adverse effects in the two study groups.	99
<u>17</u>	Bar chart between sildenafil after clomid and clomid after sildenafil according to Folliculometric measures and endometrial thickness.	102
<u>18</u>	Bar chart between sildenafil after clomid and clomid after sildenafil according to endometrial pattern.	104
<u>19</u>	Bar chart between sildenafil after clomid and clomid after sildenafil according to subendometrial and UA Doppler measures.	106
<u>20</u>	Bar chart between sildenafil after clomid and clomid after sildenafil according to pregnancy and miscarriage rates.	107
<u>21</u>	Bar chart between sildenafil after clomid and clomid after sildenafil according to Side effects.	108

List of Tables

No.	<u>Table</u>	<u>Page</u>
1	Diagnostic criteria of PCOS.	6
2	Genes associated with PCOS or component traits of PCOS.	11
<u>3</u>	Sources of serum androgen in women with PCOS.	18
<u>4</u>	Side effects of sildenafil citrate.	43
<u>5</u>	Available gonadotropin preparations.	59
<u>6</u>	Characteristics of the two study groups	85
<u>7</u>	Results of hormonal work up in the two study groups	86
<u>8</u>	Folliculometric measures and endometrial thickness in the two study groups	87
9	Endometrial pattern in the two study groups	90
<u>10</u>	Subendometrial and UA Doppler measures in the two study groups	92
<u>11</u>	Pregnancy and miscarriage rates in the two study groups	95
<u>12</u>	Number needed to treat for pregnancy	97
<u>13</u>	Incidence of drug-related adverse effects in the two study groups	98
<u>14</u>	Comparison between sildenafil after clomid and clomid after sildenafil according to Folliculometric measures and endometrial thickness	101
<u>15</u>	Comparison between sildenafil after clomid and clomid after sildenafil according to endometrial pattern.	103

List of Tables

No.	<u>Table</u>	<u>Page</u>
<u>16</u>	Comparison between sildenafil after clomid and clomid after sildenafil according to subendometrial and UA Doppler measures.	105
<u>17</u>	Comparison between sildenafil after clomid and clomid after sildenafil according to pregnancy and miscarriage rates.	107
<u>18</u>	Comparison between sildenafil after clomid and clomid after sildenafil according to Side effects.	108
<u>19</u>	Relative risk and number needed to treat for pregnancy between sildenafil after clomid and clomid after sildenafil.	109



Introduction





Aim of the Work





Review of Literature





Chapter (1):

Polycystic Ovary Syndrome





Chapter (2):

Sildenafil Citrate





Chapter (3):

Induction of Ovulation in PCO





Patients and Methods

