



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكرو فيلم

بسم الله الرحمن الرحيم



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شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلم



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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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HANAA ALY

**Effect of Laparoscopic Ovarian Drilling on Outcomes
of In-Vitro Fertilization in Clomiphene-Resistant
Women with Polycystic Ovary Syndrome**

Thesis Submitted for Partial Fulfilment of Master Degree in
Obstetrics and Gynecology

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LIST OF ABBREVIATIONS

2PN	Two pronuclei
ACOG	American college of obstetricians and gynecologists
AE-PCOS	Androgen excess and PCOS society
AMH	Anti Mullerian Hormone
ANA	Anti-nuclear antibody
ANOVA	A one-way analysis of variance
ART	Assisted reproductive technology
ASRM	American Society for Reproductive Medicine
BMI	Body Mass Index
CC	Clomiphene Citrate
COH	Controlled ovarian hyperstimulation
CVD	Cardio vascular disease
DHEAS	Dehydroepiandrosterone Sulphate
DM2	Diabetes mellitus type 2
DNA	Di Nucleic Acid
E2	Estradiol (Estrogen 2)
ECM	Extracellular matrix
ELISA	Enzyme-Linked Immunosorbent Assay
ESHRE	European Society for human reproduction and embryology
ET	Embryo transfer
FAI	Free androgen index
FDA	Food and drug administration
FSH	Follicle stimulating hormone
GDM	Gestational diabetes mellitus

GnRh	Gonadotrophins releasing hormones
HCG	Human Chorionic Gonadotrophin
ICM	Inner cell mass
ICSI	Intracytoplasmic sperm injection
IGF-1	Insulin Growth Factor One
IGT	Impaired glucose tolerance
IL-11	Interleukin-11
IR	Implantation rate
IVF	Vitro fertilization
IVF-ET	In vitro Fertilization-Embryo Transfer
LH	Luteinizing hormone
LMP	Last Menstrual Period
LOD	Laparoscopic ovarian drilling
LPD	Luteal Phase Defect
mIU/ml	Milli-international unit per milliliter
ng/dl	Nanograms per deciliter
NIH	National Institutes of health
NK	Natural killer
OCP	Oral contraceptive pill
OHSS	Ovarian Hyper Stimulation Syndrome
OI	Ovulation Induction
OR	Odds ratio
PCOM	Polycystic ovary morphology
PCOS	Polycystic Ovary Syndrome
PCR	Polymerase chain reaction
PGD	Pre-implantation genetic diagnosis

PR	Pregnancy rate
P-value	Probability
RCTs	Randomized Controlled Trials
SART	Society for assisted reproductive technology
SD	Standard deviation
SERM	Selective estrogen receptor modulator
SET	Single embryo transfer
SHBG	Sex hormone binding globulin
U/S	Ultrasound
WHO	World Health Organization
χ^2	Chi-square

PROTOCOL OF A THESIS
FOR PARTIAL FULFILMENT OF MASTER
DEGREE IN
OBSTETRICS AND GYNECOLOGY

Title of the Protocol: Effect of Laparoscopic Ovarian Drilling on Outcomes of In Vitro Fertilization in Clomiphene-Resistant Women with Polycystic Ovary Syndrome

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What is already known on this subject? AND

What does this study add?

The polycystic ovarian syndrome is associated with anovulation and infertility. Recently the laparoscopic ovarian drilling (LOD) has been used as a surgical treatment for ovulation in women with polycystic ovarian syndrome (PCOS), although its mechanism and outcomes are still unclear. The purpose of this study is to evaluate the LOD effect before *in vitro* fertilization (IVF) / intracytoplasmic sperm injection (ICSI) in clomiphene-resistant women with PCOS.

1. INTRODUCTION:

Polycystic ovary (PCO) is considered as one of the most common endocrine disorders. It occurs in 6-21% of women. It is the primary cause of an-ovulatory subfertility, accounting for at least 75% of cases with an-ovulatory subfertility (**Joham et al., 2015**).

Lifestyle modifications and clomiphene citrate (CC), a selective estrogen receptor modulator, still remain the first line of treatment for PCOS patients (**Subarna Mitra et al., 2015**). However, between 15 – 40 % of PCO patients show persistent anovulation following treatment with clomiphene citrate and they are considered to have clomiphene citrate-resistant PCOS (**Abu Hashim et al., 2015**).

Eventually, LOD has become the preferred surgical alternative for ovulation induction in clomiphene citrate-resistant PCOS patients (**Ricardo Azziz et al., 2016**).

A study has reported that the impact of LOD prior to ART is beneficial in decreasing the OHSS risk and improving the pregnancy rate in women with a history of cancellation of IVF cycle due to risk of OHSS (**Lebbi et al., 2015**).

Another study has showed that ovarian trauma disrupts local androgen synthesis that leads to a reduction in intra-ovarian androgen concentration that is followed by negative effects of androgen on follicular maturation. Subsequently it results in decreased peripheral conversion of androgen to estrogen that cause positive feedback on LH secretion (**Eftekhari et al., 2016**).

The effect of LOD on ART outcomes in clomiphene-resistant PCOS patients is still unknown; therefore, this study aimed to evaluate IVF/ICSI outcomes in clomiphene-resistant women with PCOS who were treated with LOD.

2. AIM:

The aim of the study is to evaluate the effect of LOD on the outcome of IVF/ICSI cycle in Clomiphene-Resistant women with PCOS as regards pregnancy rate.

STUDY HYPOTHESIS

In clomiphene-resistant women with PCOS who are going to have IVF, LOD may improve clinical pregnancy rate.

STUDY QUESTION

In clomiphene-resistant women with PCOS who are going to have IVF, does LOD improve clinical pregnancy rate?

STUDY OUTCOMES

1. Primary outcome: clinical pregnancy rate.
2. Secondary outcomes:
 - a. Induction of ovulation (dose and duration).
 - b. Risk of OHSS.
 - c. Number of oocytes collected.
 - d. Quality of embryos transferred.