شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

# بسم الله الرحمن الرحيم


HANAA ALY

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# جامعة عين شمس

# التوثيق الإلكتروني والميكروفيلم

# قسم

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

# يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

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

By

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| | |
|---|---|
| **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 |
| $\mathbf{x^2}$ | 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 **(Eftekhar 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.