

# **Routine Hysteroscopy and endometrial biopsy as basic part of Infertility Work-up**

## **Thesis**

Submitted for Partial Fulfillment of Master Degree in  
*Obstetrics & Gynecology*

**By**

**Demiana Samir Shenouda**

*M.B.B.Ch. Ain Shams University*

**Supervised By**

**Dr.Ahmed Khairi Makled**

**Assistant Professor of Obstetric and Gynecology  
Faculty of Medicine – Ain Shams University**

**Dr.Mohamed Mahmoud Ahmed Farghali**

**Lecturer in Obstetric and Gynecology  
Faculty of Medicine – Ain Shams University**

*Faculty of Medicine  
Ain-Shams University*

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## List of Abbreviations

2D US	Two dimensional ultrasound
3D US	Three dimensional ultrasound
ANA	Anti DNA
AOA	Anti Zona and Anti ovarian
ART	assisted reproductive technologies
ASA	Anti Sperm
aCL	Anticardiolipin
aPS	Anti-Phosphatidylserine
aPE	Anti Phosphatidylethanolamine
AUB	Abnormal uterine bleeding
BMI	Body mass index
CCU	camera control unit
CFTR	cystic fibrosis transmembrane conductance regulator
CI	confidence interval

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**List of abbreviations (ii)**

D&C	Dilatation and curettage.
D.M.	Diabetes mellitus.
DVT	Deep venous thrombosis
ET	embryo transfer
<b><u>ET</u></b>	<b><u>Endometrial thickness</u></b>
FISH	fluorescence <i>in situ</i> hybridization
FSH	follicle-stimulating hormone
HSG	Hysterosonography
HTN	Hypertension
ICSI	Intra Cytoplasmic Sperm Injection
IL12	<a href="#"><u>interleukin12</u></a>
IL18	<a href="#"><u>interleukin18</u></a>
IUA	Intrauterine adhesions
IUI	intrauterine insemination

**List of abbreviations (iii)**

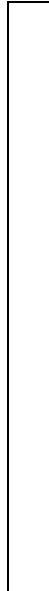
IVF	In vitro fertilisation
LA	Lupus anticoagulant
LH	luteinizing hormone
LPD	luteal phase defect
LUF	<i>Luteinized unrupture follicle syndrome</i>
NNT	number needed to treat
<b>NAD</b>	<b>No Abnormality Detected .</b>
OD	outside diameter
PCO	polycystic ovary syndrome
PGD	preimplantation genetic diagnosis
PID	Pelvic inflammatory disease
RCT	randomized controlled trials
RI	resistance index.
<b>RVF</b>	<b>Retroverted Uterus.</b>
ROC	receiver-operating characteristics.
ROS	reactive oxygen species.
SIS	Saline infusion sonography.
TSH	thyroid-stimulating hormone.
TURP	transurethral resection of the prostate.
UK	United Kingdom.
<b>USA</b>	<b>United States of America.</b>

**List of abbreviations (iv)**

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VCR	video cassette recorder.
WHO	<b>World Health Organization</b>



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## INTRODUCTION

The appropriateness of many investigations for subfertility will continue to be of debate for some time yet. Of most benefit to the concerned couple would be a process that is diagnostically accurate, expeditious and reliable. It should be performed with a minimum of invasion and provide both patient and clinician with useful prognostic information regarding possible future treatment (**Simon et al., 2001**).

The state of the art of the infertility workup, strange as it may appear, has never been accurately defined. A recent survey, that was designed to determine how reproductive endocrinologists practice on a daily basis, demonstrated that the five basic tests that were regarded as the cornerstone of the infertility evaluation were: semen analysis, assessment of ovulation, hysterosalpingogram, laparoscopy, and post-coital test (**Glatstein et al, 1997**).

The cost-effectiveness of various assisted reproduction technology strategies has been documented in the literature (**Molet al., 2000**). However to date there is a dearth of information relating to the cost-effectiveness of subfertility investigation. Surely the development of an appropriate model for investigation will lead to a number of benefits. Firstly, by ensuring the process is as streamlined as possible, patients will be able to access appropriate treatment earlier, thereby minimizing the risks of an age-related fertility effect. Secondly, by ensuring the process is as cost-effective as possible, this in turn may allow more funds to be allocated to the treatment process (**Simon et al., 2001**).

Uterine cavity pathologies may interfere with embryo implantation (**Mittal et al., 1994**). Therefore, the evaluation of the uterine cavity is one of the basic steps in work-up of infertile women, especially before an IVF program.

Hysteroscopy has traditionally been performed as an adjunct tool to evaluate abnormalities suspected as a result of HSG evaluation. Recent studies have shown increased benefit from combining hysteroscopy and HSG in the evaluation of female infertility. Moreover, hysteroscopy is useful in identifying endometrial abnormalities not detectable on HSG (**Brown et al., 2000**).

Some authors think that hysterosalpingography should be considered an obsolete test, because it is more invasive, more dangerous and less reliable than hysteroscopy and sonohysterography in the detection of the uterine abnormalities during a routine infertility investigation (**La Sala and Montanari, 2000**).

During the last two decades, hysteroscopy has increasingly been gaining acceptance and is today a necessary tool in the investigation of female infertility. Hysteroscopy permits direct visualization of the cervical canal and the uterine cavity, enabling observation of the shape, relief, and vascular pattern of any abnormality (**Roma et al., 2004**). Since nowadays it is performed in the office, so it can be offered as a first-line diagnostic tool for evaluation of uterine abnormalities in patients with abnormal uterine bleeding and/or infertility. In addition, the hysteroscopic approach offers the possibility of obtaining endometrial/myometrial biopsies under visual control (**Molinas and Campo, 2006**).

**Makris et al., 1999** performed hysteroscopy in patients with history of abortions, infertility and repeated failure of IVF. They showed that abnormal hysteroscopic findings were observed in 40.5% of cases in which intrauterine adhesions, endometrial hyperplasia and polyps were the most common. **Faghali et al, 2003** evaluated the benefits of a diagnostic hysteroscopy prior to IVF which shows that systematic hysteroscopy prior to IVF could improve the pregnancy rate. La Sala and Oliveira and their colleagues showed relation between IVF-ET failure and unsuspected intrauterine abnormalities (**La Sala et a., 1998 and Oliveira et al., 2003**).

## AIM OF THE WORK

The aim of the present study is to determine if hysteroscopy associated to endometrial biopsy should be part of the basic routine investigation of infertile women.

- (i) We will study the incidence of intrauterine abnormalities and chronic endometritis in infertile women.
- (ii) We will compare endoscopic findings with 2D Ultrasound and hysterosalpingography.