Diagnostic hysteroscopy as a primary tool in basic infertility workup

Thesis

Submitted for partial fulfillment of master degree in Obstetric & Gynacology

By

Sayed Mohamed Sayed

M.B.,B.ch,Faculty of Medicine, Cairo university

Under the supervision of

Prof. Diaa El-Din Sarhan

Professor of Obstetric &Gynacology

Faculty of Medicine, Cairo university

Prof. Mohamed Hassan Mostafa

Professor of Obstetric & Gynacology

Faculty of Medicine, Cairo university

Dr. Waleed Saber Abd Al-Gaber

Lecturer of Obstetric & Gynacology

Faculty of Medicine, Cairo university

Faculty of Medicine

Cairo university

2010-2011

Abstract

These intrauterine adhesions (IUA) are often associated with amenorrhea or infertility. The prevalence rate of IUAs in the general population is 1.5%, with adhesions noted in up to 30% of women undergoing hysteroscopy following 3 or more spontaneous abortions treated with dilation and curettage.

Key word:

Diagnostic

Obstetric

Gynacology

hysteroscopy

First of all *thanks to* ***ALLAH*****.**

I want to offer my thanks and gratitude to ***Dr. . Diaa El-Din Sarhan ,*** Professor of Obstetric &Gynacology faculty of medicin Cairo university , for his kind help, guidance and support .

I would like to express my deep thanks and immense gratitude to ***Dr . Mohamed Hassan Mostafa*** Professor of Obstetric &Gynacology faculty of medicin Cairo university , for his supervision,valuable advice, help and support.

I am so grateful to ***Dr. Waleed Saber Abd Al Gaber*** Lecturer of Obstetric &Gynacology faculty of medicin Cairo university , who was really very helpful, careful and guided me in every step of that work to make it appear in its current image.

Contents

Page

List of tables

List of abbreviations:-

Appreviation	
AUB	Abnormal uterine bleeding
CO2	Carbon dioxide
DES	Diethylstilbestrol
FDA	Food &Drug Administration
HSG	Hysterosalpingography
IVF-ET	Invitro fertilization & Embyo transfer
IUA	Intrauterine adhesions
IUI	Intrauterine insemination
KTP	Potassium-titanyl-phosphate

Introduction

INTRODUCTION

It is widely accepted that a complete infertility workup should include an evaluation of the uterine cavity. Uterine abnormalities, congenital or acquired, are implicated as one of the causes of infertility. In fact, infertility related to uterine cavity abnormalities has been estimated to be the causal factor in as many as 10% to 15% of couples seeking treatment. Moreover, abnormal uterine findings have been found in 34% to 62% of infertile women **(Brown SE, et al,2000).**

Today, hysteroscopy is considered the gold standard for evaluating the uterine cavity, and due to improved endoscopic developments, can be performed reliably and safely as an office procedure **(Shushan A, et al, 1999; Gordts S, et al, 2002).**

Direct view of the uterine cavity offers a significant advantage over other blind or indirect diagnostic methods **(Prevedourakis C, et al, 1994).**

Although hysterosalpingography (HSG) is to be as accurate as hysteroscopy in the diagnosis of normal and abnormal cavities,the nature of the intrauterine filling defects is more accurately revealed by hysteroscopy **(Prevedourakis C, et al, 1994)**.

Later studies have shown a correlation of only 65% between findings diagnosed with HSG compared with those diagnosed with hysteroscopy **(Wang CW, et al, 1995).**

The role of hysteroscopy in infertility investigation is to detect possible intrauterine changes that could interfere with implantation or growth, or both, of the conceptus, and to evaluate the benefit of

different treatment modalities in restoring a normal endometrial environment **(Campo R, et al. 1999).**

Oliveira reported detection of significant,unsuspected intrauterine abnormalities, found only with hysteroscopy, in 25% of patients with repeated failed invitro fertilization and embryo transfer (IVF-ET) cycles. All of his patient population had normal HSG within the former year. More importantly, relevant therapeutic interventions significantly improved the clinical pregnancy rate in those with abnormal uterine cavity at hysteroscopy **(Oliveira FG, et al, 2003; Nawroth F, et al, 2003; Hinckley MD, Milki AA. 2004).**

Hysteroscopy can diagnose much more precisely, compared with HSG and even transvaginal ultrasonography,small intrauterine lesions that might affect fertility. In view of all of the above, it is clear why many authors believe that uterine and endometrial integrity should be evaluated primarily by hysteroscopy in the infertile & IVF treated population **(Oliveira FG, et al, 2003; Nawroth F, et al, 2003; Hinckley MD, Milki AA. 2004).**

Still, many consider hysteroscopy as only a complementary procedure case of abnormal findings detected by other methods (primarily hysterosalpingography and ultrasound**) (Fabre C. et al, 1998; Shalev J, 2000; American Society for Reproductive Medicine. et al,2000).**

Aim of work

Aim of work

The aim of this work is to assess the value of diagnostic office hysteroscopy in the primary workup of infertility.

Chapter(1)

History of the procedure & Equiepment

Chapter (1)

History of the Procedure

Introduction:-

Hysteroscopy is the process of viewing and operating in the endometrial cavity from a transcervical approach. The basic hysteroscope is a long, narrow telescope connected to a light source to illuminate the area to be visualized. With a patient in the lithotomy position, the cervix is visualized by placing a speculum in the vagina. The distal end of the telescope is passed into a dilated cervical canal, and, under direct visualization, the instrument is advanced into the uterine cavity. A camera is commonly attached to the proximal end of the hysteroscope to broadcast the image onto a large video screen. Other common modifications are inflow and outflow tracts included in the shaft of the telescope for fluids. Media, such as sodium chloride solution, can be pumped through a hysteroscope to distend the endometrial cavity, enabling visualization and operation in an enlarged area (**Shapiro BS. 1988).**

Hysteroscopy is a minimally invasive intervention that can be used to diagnose and treat many intrauterine and endocervical problems. Hysteroscopic polypectomy, myomectomy, and endometrial ablation are just a few of the commonly performed procedures. Given their safety and efficacy, diagnostic and operative hysteroscopy have become standards in gynecologic practice **(Corfman RS, 1988).**

The development of hysteroscopy is rooted in the work of

Pantaleoni, who first reported uterine endoscopy in 1869 **(Marlow JL 1995).**

However, at that time, instrumentation was elementary, and expansion of the uterine cavity was insufficient. In 1925, Rubin first used CO2 to distend the uterus **(Marlow JL 1995)** .

Around the same time, Gauss was experimenting with the use of fluids to achieve uterine expansion. Hysteroscopy did not become popular until the 1970s, when technology afforded more practical and usable instruments than before. The use of liquid distention media became routine by the 1980s, and many new hysteroscopic procedures, including endometrial ablation, were developed **(Marlow JL 1995)** .

Initially used by urologists for transurethral resection of the prostate, the resectoscope was modified for hysteroscopic procedures, allowing for resection of intrauterine pathology with monopolar cautery. By the mid-1980s, hysteroscopic procedures had nearly replaced dilation and curettage (D&C) for diagnosing intrauterine pathology **(Jansen FW, et, al. 2000).**

Over the past few decades, refinements in optic and fiberoptic technology and inventions of new surgical accessories have dramatically improved visual resolution and surgical techniques in hysteroscopy. Many hysteroscopic procedures have replaced old, invasive techniques. Now, as instruments become smaller than before, office hysteroscopy is replacing operating-room procedures. One of the most recent hysteroscopic procedures approved by the US Food and Drug Administration (FDA) is female sterilization (Essure, Conceptus, Incorporated, Mountain View, Calif), which can be performed in the