

HYSTEROSCOPIC EXPERIENCE AT
AIN SHAMS MATERNITY HOSPITAL.



THESIS

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submitted for partial fulfillment of master
degree in obstetrics & gynecology



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1989

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ACKNOWLEDGEMENT

I would like to express my Thanks and appreciation to Dr. ALI ABD EL-HALEM SHAHWAN Assist. Prof. of obstetric and Gynecology Ain Shams University for encouragement and supervision all through this study.

I would like also to express my deepest gratitude to Dr. MOUNIR MOHAMED FAWZY EL-HAO Assist. Prof. of obstetric and Gynecology Ain Shams University for great help in preparing and writing this thesis.

I would like also to thank all the members of the departement of early diagnostic unit of Ain Shams maternity hospital.

INTRODUCTION

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Hysteroscopy is the technique of visualization of the cervical canal and uterine cavity by means of an instrument which includes a metallic sheath and a telescope receiving light through a fibroptic bundle from an external illuminating source. A solution or gas is used to distend the uterine cavity during the procedure.

Hysteroscopy for the direct intra uterine visualization has added a new dimension to the management of patients with common clinical problems, increasing the accuracy of diagnosis and serving as an adjunct in the treatment of intra uterine pathological condition as endometrial polyps, uterine submucous lipomyoma, uterine malformation and intra uterine adhesion.

Hysteroscopy is a safe ambulatory procedure that is appealing to both patient and gynecologist in its economy and simplicity (Sciarra & Valle ; 1977).

Although hysteroscopy is a new procedure to most gynecologist its use is proliferating, it is a procedure that is readily learned in a short period of time - yet it cannot replace the traditional methods of diagnosis and therapy (Goldroth & Sherman ; 1985).

Hysteroscopy is indicated whenever intra uterine disease is suspected and whenever treatment for such disease is needed (March ; 1983).

Hysteroscopy in the past has been no more than a way to confirm the existance, location and extent of intra uterine lesions, although experience accumulated in many cases of endometrial disorders has made it possible to deduce the pathology from the external appearance of the lesion seen by recent techniques of hysteroscopy. (Sugimoto; 1975).

Since november 1985 , hysteroscopy was introduced to Ain Shams maternity Hospital and the experiance with this instrument is rapidly growing.

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AIM OF THE STUDY

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This survey study is set up to evaluate the role of hystero-
scopy in our departement since November 1985 till end of December
1988 with the use of computer data available in our departement.

REVIEW OF LITTERATURE

HISTORICAL ASPECTS OF HYSTEROSCOPY

The development of hysteroscopy, exactly like that of other endoscopic examination methods, is closely related to the development of the instruments for the observation of other body cavities (Lindemann; 1973).

Bozzini (1805) examined the nasal passage, the vagina and the rectum with a light conductor which he had invented. The device consisted of a tubular spectrum, and a candle was put into the square - windowed, hollow tube, while light was directed by a concave mirror through the tube into the cavity which was to be examined, the results however, were unsatisfactory (Lindemann ; 1973).

The first hysteroscopy (also called metroscopy or uteroscopy) was described in 1869 by Pantaleoni. He managed a 60 years old patient with persistent uterine bleeding by inserting a straight tube 12 mm. in diameter into the uterine cavity, and polypoid endometrial grows were observed and cauterized under visual control without evidence of recurrent bleeding. Pantaleoni used reflected candle light from a concave mirror to illuminate the uterine cavity. (Valle & Sciarra 1979).

Ten years later Nitze introduced a cystoscope with illumination provided by a platinum loop which could deliver light distally to the bladder, this endoscope was the proto type for present day hysteroscope. (Valle & Sciarra 1979).

In 1893 Morris used a straight silver and brass tube 9 mm. in diameter and 22 mm. long, an obturator inside the tube was withdrawn once the instrument has been introduced into the uterine cavity leaving the hollow tube to serve as an endoscope. Morris observed the tubal ostia and the endometrium (Valle & Sciarra ; 1979).

Bumm (1895) used an endoscope commonly used for the male urethra for examination of the uterine cavity. A head lamp with an light reflector served as an illuminator. This instrument enabled him to discover changes in the mucosa of the uterus such as hyperaemia, granulation ulcers, and polypous growth, but he also mentioned the disadvantages of difficulties, such as frequent bleeding which disturbed vision, (Lindemann ; 1973).

David in 1907 , developed a hysteroscope which permitted visualization by direct contact of the instrument with the surface of the endometrium. The technique was introduced for the purpose of observing the uterine interior under relatively steril condition in post partum and post abortion patients, since a distending medium was not required.

Heineberg and Seymour modified instrument by introducing irrigation system with inflow and out flow channeles to allow for fluid distension of the uterine cavity without interference from blood.

In 1925 Rubin insufflated the uterine cavity with carbon dioxide instead of water.

In 1926 Seymour introduced a cystoscope fitted with a suction tube that could drain mucous and blood from the uterine cavity. 1927 Von Mikulicz - Radecki and Freund produced a curettoscope with rinsing system to wash away the blood that obstructed vision the instrument provided a good view of the cavity and enabled the physicians to perform directed endometrial biopsies. (Lindemann ; 1973).

Schroeder (1934) Succeeded in developing an instrument with an excellent forward - viewing optical system, with a side mounted operator, it thus became possible to inspect large areas of the cavity and to achieve 3 dimensional view. The instrument had an external diameter of 10 mm. , a few drops of epinephrine solution were often added to rinsing fluid to reduce the tendency of the endometrium to bleed. Schroeder found that water instilled into the cavity from 650 mm. above the patient resulted in an intra uterine pressure between 25 - 30 mm. Hg. , when the height of the water column was increased to 950 mm. the pressure inside the uterus raised to 35 mm. Hg. These pressures were sufficient to distend the uterine cavity and ensure an adequate space between the endoscopic lens and the endometrium, when the intra uterine pressure increased to more than 35 mm. Hg. , water flowed through the tubes into the peritoneal cavity (Lindemann ; 1973).

Segond (1934 - 1943) used an instrument with a diameter of Hegar 10 with irrigating systems for operative hysteroscopy. He especially pointed out the possibility of taking intra uterine biopsies of pathologic tissue change (Valle ; 1983).

Norment(1951), described a method for uterine distention using a fluid filled rubber ballon, this approach although successful for visualization had limited clinical applicability.

Mohri (1954) reported on the possibility of embryoscopy also introduced the first tubaloscope.

Other investigators during the early and mid century experimented with various designs is instrumentation illumination, techniques for distending , irrigating and rinsing the uterine cavity and photographing the intra uterine environment, the use of viscous solutions for uterine distention began with Menken's(1967), introduction of polyvinyl pyrrolidone was limited due to the fact that the substance is not biodegradable, and is yellow in solution.

In the late(1979)and early(1960),10 % dextrose in water and low molecular weight dextran solution were used sporadically without great success.

In(1970)Edstrom and Fernstrom successfully utilized a high

molecular weight dextran for uterine distension, this substance permitted clear visualization of the uterine cavity and intra uterine manipulations such as biopsies or removal of small lesions under direct visual control. The excellent results achieved with this medium allowed hysteroscopy to take its place as a practical clinical procedure.

Quinones - Guerrcore et al., (1971) initiated the practical use of dextrose 5 % in water, delivered under pressure for uterine distension.

Lindemann (1971) modified the insufflation of CO₂ gas for uterine distension with a safe and effective method.

High molecular weight dextran, dextrose 5 % in water and CO₂ gas insufflation are the three media presently used for uterine distension (Siegler ; 1983).

Recent optical innovation have permitted the development of a new endoscope, the microhysteroscope which was built in 1980 and offers a combination of panoramic hysteroscopy, contact hysteroscopy and microscopy. Multiple magnification are available with this instrument which permits new diagnostic approach by combining the data offered by hysteroscopy, colposcopy and cytology (Hamou ; 1983).