

Comparative Study Between Clinical And Radiological Diagnosis And
Laparoscopic Findings In Cases Of Infertility

A Thesis

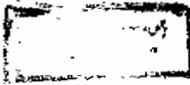
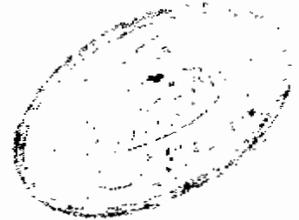
Submitted in Partial Fulfillment of Master degree in Obstetrics and Gynaecology

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((بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ))

* لله ملك السموات والأرض يخلق ما يشاء يهب لمن
يشاء أنثى ويهب لمن يشاء الذكور أو يزوجهم
فكرانا وأنانا ويجعل من يشاء عقيباً انه عليهم قد ير *

صدق الله العظيم

* سورة الشورى آية ٤٩ ، ٥٠ *



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INTRODUCTION

INTRODUCTION

Female infertility, still, constitutes one of the common problems in gynaecological practice . There are many pelvic factors that can account for female infertility . These detection of these factors may necessitate the use of more than one method of investigation .

For several decades, hysterosalpingography had been found to be one of the most valuable diagnostic method in case of female infertility .

In recent years, the introduction of laparoscopy in the investigation of infertile female has markedly influenced the opinion of many clinicians concerning the diagnostic value of hysterosalpingography .

Both diagnostic methods have been carried out in the same patient by many investigators to evaluate the diagnostic value of each method . But, there is still controversy regarding the diagnostic value of each method.

AIM OF THE WORK

It is to study the difference between clinical, radiological (Hysterosalpingography) findings and that seen at laparoscopy in cases of infertility . To verify the superiority of laparoscopy in the diagnosis of causes of infertility .

REVIEW OF LITERATURE

Historical Review

The development of a laparoscopy as a diagnostic and a therapeutic procedure has much to revolutionize the practice of gynaecology .

Kelling (1901) reported his first attempts at visualizing the peritoneal cavity in dogs, a procedure he called celioscopy .

Jacobeus (1910) was the first to report the application of a laparoscopic procedure in man. He established pneumoperitoneum after the trocar has been introduced . He utilized his techniques primarily in patients with liver disease and tuberculous peritonitis .

Orndoff (1920) a radiologist from Chicago, who published a paper in the journal of Radiology - Actually his technique varies little from the technique we use today . He produced a preliminary pneumoperitoneum using oxygen and performed his procedure in conjunction with x-ray examination . He utilized his technique primarily for the diagnosis of gynaecological disorders, describing several cases of ectopic pregnancy, salpingitis and ovarian tumours.

Kalk (1929) introduced significant improvements in the optic system, thus enhancing the applicability of a laparoscopy as a diagnostic tool .

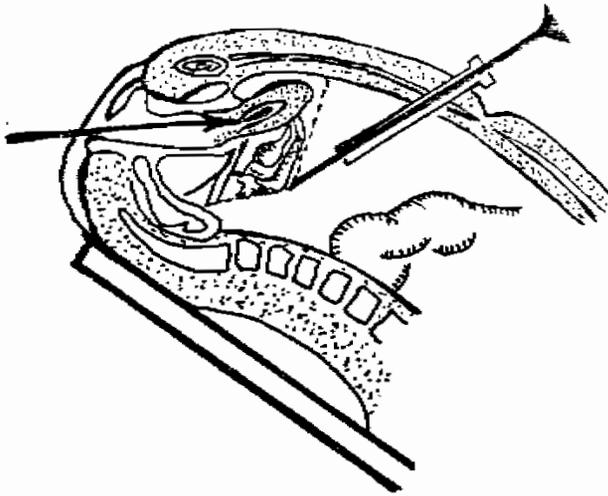
Anderson (1937) designed a special electrode for sterilization of female . Palmer (1945) began his own

series with a modified pleuroscope, applying it to gynaecologic diagnosis, and particularly to fine assessment of conditions of infertility; he called the procedure telioscopy . He utilized an intra uterine cannula to mobilize this organ and properly expose the adnexa and cul-de-sac .

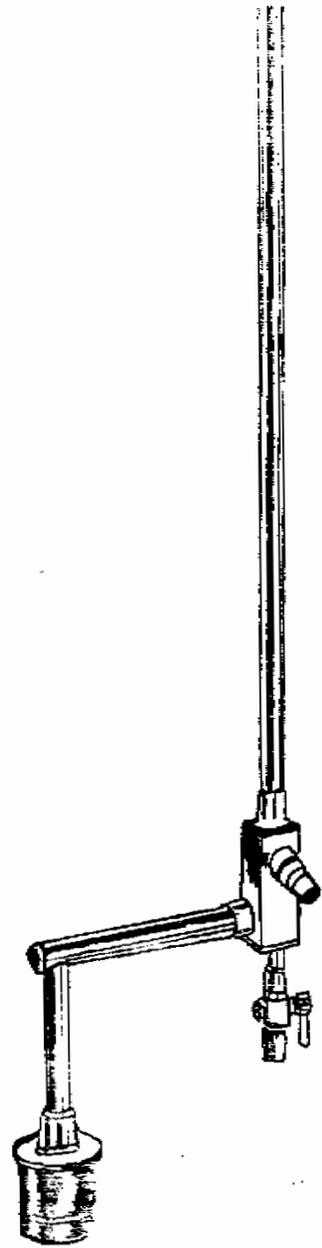
Fourestier 1952, utilized a quartz rod to transmit the light from an outside source, thus markedly increasing the luminosity without the danger of burning the bowel with intra-abdominal incandescent lamps . With this optic system, photo cinematography was developed by Palmer(1956).

The development of flexible fiberoptic glass light-transmitting system constituted another important step in the more wide spread use of laparoscopy .

Steptoe (1967) published his book " laparoscopy in gynecology " that is considered among the most important factors contributing to the use of laparoscopy . Also the popularity of laparoscopy was further enhanced by the publication of a book by Cohen, (1970, which coincided with a literal explosion of its many application as diagnostic and therapeutic operations in the United States .



Laparoscopy is Visualization
of the peritoneal cavity by
means of an endoscope .



Laparoscope

THE LAPAROSCOPY

In the past few years, A laparoscopy has found increasing application in a wide variety of gynaecological conditions. However, it is in the field of infertility that laparoscopy has perhaps found its most important use . In as many as 25-35 % of women in whom no cause of infertility has been established, the gynaecologist is rewarded by the finding of unsuspected pelvic abnormality at the endoscopic examination .

The Components Of The Laparoscope

1 - Light Source : -

The flexible fiberoptic glass light transmitting system is now the only system used in modern laparoscopy, and is based on the principle of conduction of light along a transparent dielectric cylinder by internal reflectance . The cable made of bundles of these fibers is connected distally to a light source and proximally to the laparoscope itself .

2 - Gas Insufflator : -

It is designed to deliver gas, either carbondioxide or nitrous oxide, at a continuous flow under controlled pressure for the creation of pneumoperitoneum .

It consists of a gas container that fills a small 5-10 liter bottle, and a gauge indicating the gas pressure in the container and, indirectly, the supply avail-

able . Another gauge indicates the volume of gas injected into the patient . Finally, the most important gauge indicates the pressure of gas injected into the peritoneal cavity .

3 - The Laparoscope (endoscope) : -

It is a telescope, approximately 30 cm. in length and 4 to 10 mm . in diameter, with in which a system of lenses is mounted .

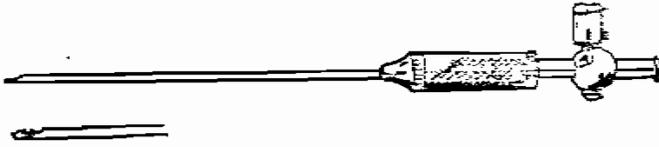
The two most important lenses are the ocular mounted at the eyepiece and the objective mounted at the end of the system .

4 - Surgical Instruments

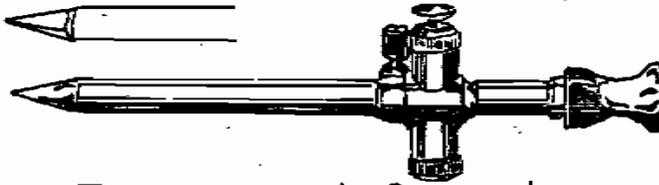
A - The Veress needle : -

It is used to create the pneumoperitoneum, it has a blunt, hollow stylet protruding beyond its tip and a spring mounted at its base that holds the stylet in this position . When resistance is encountered, the stylet is pushed inside and the sharp needle tip protrudes again, indicating it to be in free space .

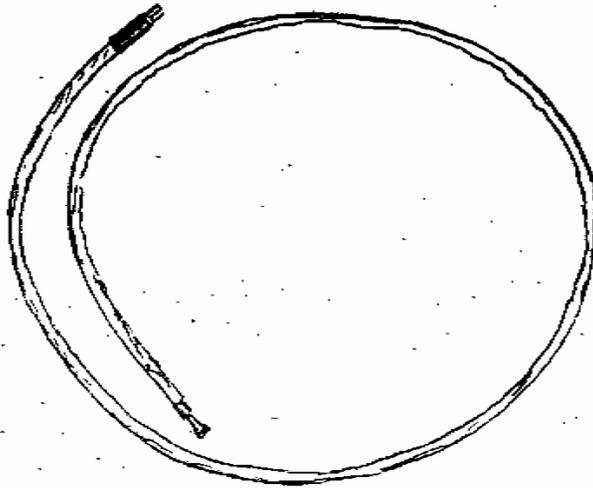
B - The Cannula (sleeve) : through which the optic is introduced into the peritoneal cavity . The standard models have a spring-operated piston - valve system, which closes tightly when either the trocar or the optic is removed, thus preventing the escape of the intraperitoneal gas .



A Veress needle



Trocar and Cannula



Cable contains fiber optic bundles

and protrudes 1.5 - 2cm beyond its tip, has the same caliber as the optic . The trocar is used to penetrate abdominal wall .

Indications Of Laparoscopy For Infertile Patients.

Cohen (1971), advised to do laparoscopy for patients who have been infertile for at least one year and whose initial work up demonstrates 3 months of apparently ovulatory temperature charts, in the presence of normal semen analysis, normal post-coital examination and normal hysterosalpingography approximately 35% of these negative patients have unappreciated asymptomatic endometriosis , another 30% have minimal tubal disease such as tubal phimosis or peritubal adhesions missed by x-ray but of physiological importance .

Albano advised laparoscopy for cases of infertility in the following conditions . (Esposito, 1977, recorded them as albano's guide lines) .

- 1 - If pregnancy has not taken place after one year therapy.
- 2 - If cycles are irregular or the basal temperature is monophasic .
- 3 - If the patient is older than 28 years and/or has been involuntarily infertile for more than 3 years .
- 4 - If there is history of previous laparotomy .
- 5 - If hysterosalpingography has been done with an oily contrast medium .
- 6 - If there has been a history of pelvic inflammatory disease or history of appendicitis .