

# Laparoscopic findings in cases with and without abdominal scars

THESIS

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by

Ragaa Khaled Hatem (M.B.B.Ch.)

Faculty of Medicine Ain Shams University

Supervised by

Prof. Dr. Mounir Mohamed Fawzy El-Hao

Prof. of Gyn. and Obst.

Faculty of Medicine

Ain Shams University

Dr. Adel Mohammed Sabbagh

Assist. Prof. of Gyn. and obst.

Faculty of Medicine

Ain Shams University

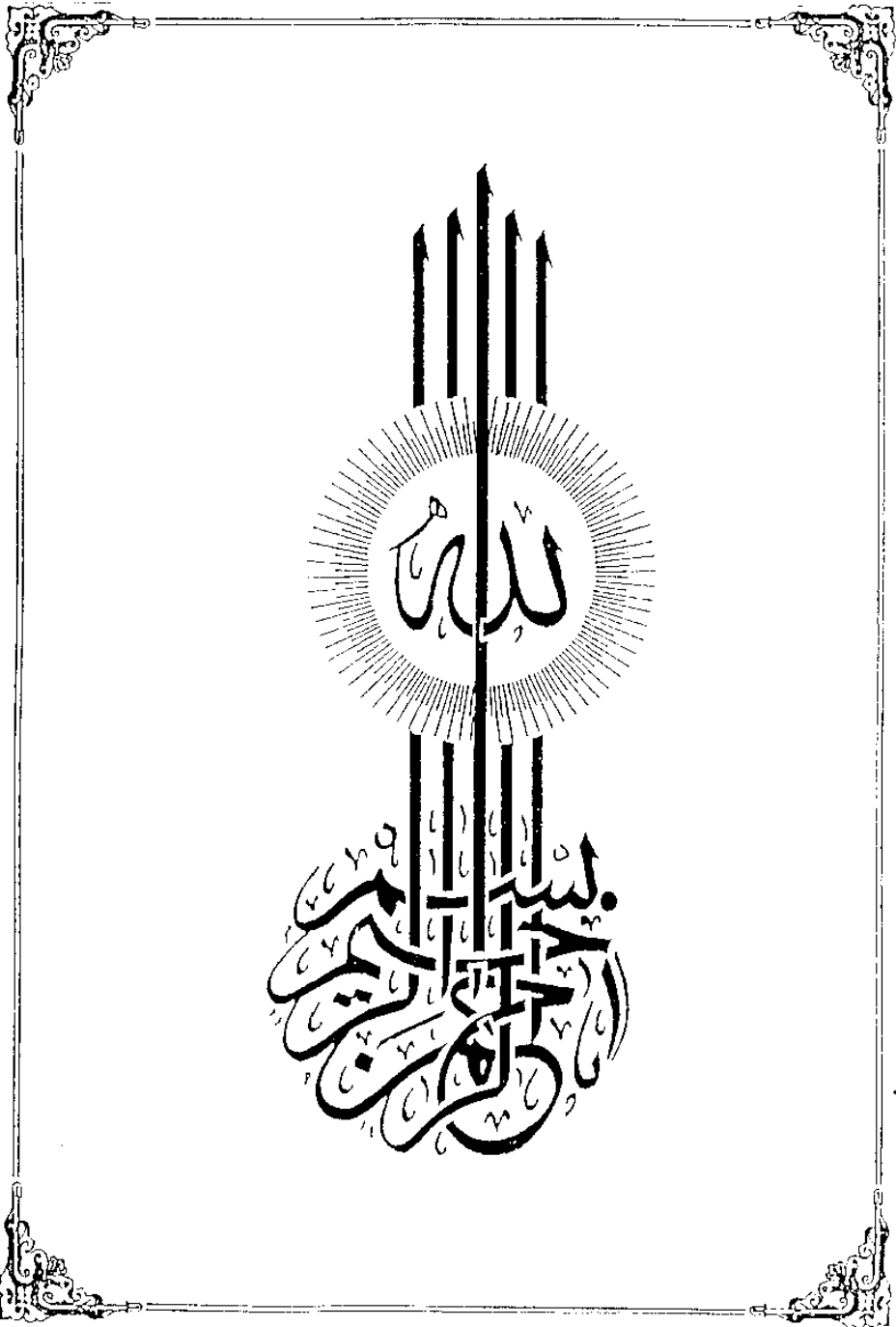


Faculty of Medicine  
Ain Shams University

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# INTRODUCTION

## **INTRODUCTION**

Laparoscopy is one of the most gynecologic operative procedures performed today and is being done with increasing frequency and safety. (*Gorden and Magos, 1989*)

The incidence of gynecological laparoscopy have been greatly extended from its initial use as a diagnostic aid or a means of female sterilization to ovarian cystectomy, excision of endometriomas and hysterectomy are now possible without open surgery. (*Gorden and Magos, 1989*).

One of the complications of laparoscopy is direct trauma to the pelvic organs and hemorrhage from pelvic blood vessels and abdominal wall which usually occur due to abdominal adhesions. So for the safety of operative laparoscopy, correlation between intra-abdominal adhesions in cases with and without abdominal scars is important.

# AIM OF THE WORK



## **AIM OF THE WORK**

The aim of this work is to compare the incidence of the intra-abdominal adhesions detected by laparoscope in patients without previous operations, those with a previous laparotomy operations and those with a previous laparoscopy and those with a previous laparotomy and laparoscopy .

# REVIEW OF LITERATURE

## **Historical View of Laparoscopy**

At the turn of the century adventurous physicians began to explore the body visually with specula and optics.

In September 1901, the Dresden professor George Kelling inserted a cystoscope into the abdomen of a living dog and viewed the viscera, first creating a pneumoperitoneum with air filtered through sterile cotton. Kelling(1902) described the entire procedure, instruments, and future possibilities of this method, peritoneoscopy was born.

In 1901, D.O.OTT, a petrograde gynecologist, described ventroscopy by which he inspected the abdominal cavity of a pregnant woman with the help of a head mirror and a speculum introduced into a culdoscopic opening.

In 1912, H.C. Jacobaeus of Stockholm published a discussion of the inspection of the three great body cavities : peritoneal, pleural, and pericardial. This publication was based on his own efforts with humans and described the first method as Laparoscopy. Von OTT, Kelling and Jacobaeus should be considered the (fathers) of modern Laparoscopy (*Gomel, 1986*).

In 1938, Janos Veress of Hungary described a new needle for inducing pneumothorax. This instrument is the one that is now most frequently used for creating pneumoperitoneum.

H. Kalk in Germany devised a new Lens system for oblique viewing (135 degrees), published extensively, and can be considered the founder of the German school of Laparoscopy for the diagnosis of liver and gall bladder disease.

In 1937 an American surgeon, E.T. Anderson, suggested coagulation for Laparoscopic sterilization, and in 1941, Frank H. Power

and Allan C. Barnes, reported performing tubal sterilization by electrocoagulating the cornual portion of each tube.

In 1944, Raoul Palmer of Paris began a gynaecologic examination using peritoneoscopy and adopting the Trendelenburg position to bring the air up into the pelvic cavity. He described a uterine canula to manipulate and elevate the uterus, giving better access to the tube and ovary with the patient in Lithotomy and a Trendelenburg position. Palmer also designed a forceps for ovarian biopsy and stressed the importance of monitoring intra-abdominal pressure.

In Germany, the gynecologist and engineer Kurt Semm incorporated new techniques of fiber optics and careful control of intra-abdominal pressures into instrumentation widely used. Hans Frangenheim, another German gynecologist, also designed instruments and techniques for gynecologic Laparoscopy in use today.

Using unipolar circuitry to coagulate tubes led to poorly understood bowel burns and caused major infections and deaths from bowel perforations and peritonitis.

The desire to occlude tubes without unipolar coagulation led to the independent development in the 1970s of the bipolar method by Jacques-E. Rioux in Canada, Hans Hirsch in Germany, and Richard K. Kleppinger and Stephen L. Corson in the United States. At the same time, non electric techniques were explored as tantalum clips, spring-loaded clip and Yoon's band.

Several simultaneous but independent developments in 1980s led to the expansion of Laparoscopy into the current therapeutic surgical practice :

- 1- Steptoe dramatically established aspiration of follicles in 1976 for the retrieval of ova for in vitro fertilization. Laparoscopy for egg retrieval was rapidly replaced by Vaginal ultrasonography, as other indications for operative Laparoscopy were emerging.
- 2- Earlier detection of ectopic pregnancies with sensitive pregnancy tests and ultrasonography Led Maurice Bruhat France and Alan

DeCherney in the United States to describe successful salpingotomy to remove ectopic at Laparoscopy.

- 3- The Television industry developed cameras that became increasingly suitable for Laparoscopy. By multiplying the eyes and hands involved in Laparoscopy, "Video endoscopy" made possible more complex and extensive surgery through the Laparoscope.
- 4- Lasser surgery allowing safe dissection in areas close to the bowel and ureter, as well as technical ease of ablation and division deep in the pelvis.
- 5- Suture manufactures expanded the availability of Laparoscopic hemostatic clips and suturing devices. In 1972, H. Courtney Clarke showed that hemostasis was feasible with suturing, in 1977 Kurt Semm showed that it was feasible with Endoloop suturing, and in 1987, Harry Reich showed that it was practical by desiccating large vessels with bipolar electrosurgery. This newfound ability has made possible extirpative surgery on larger structures such as ovaries, uteri, and gall bladders (*Hulka, 1994*).

## **Laparoscopic Equipment**

A thorough knowledge of laparoscopic equipment makes the difference between a good laparoscopist and an excellent laparoscopist. There is no other gynecologic operation that can be more Frustrating than a laparoscopic procedure with defective or incomplete equipment. *(Richard, 1993).*

### **Light Sources**

The development of a remote light source was a turning point for endoscopy. Today, most light sources have interchangeable connectors to adapt to different light bundles or cords. The standard light sources use a halogen bulb similar, if not identical, to the light bulbs used in photographic slide projectors. *(Richard, 1993).*

### **Light Bundles**

Light bundles or cords are of two types, coherent and incoherent bundles. Coherent bundles have organized Fiberglass strands that tend to carry the light through each bundle in a calumniated or focused arrangement. These Fiber strands are usually thicker in diameter than those used in incoherent bundles. A quartz lens at the distal end of the light source helps to focus the transmitted light, thus there is less light lost than with incoherent bundles. Coherent bundles are used in flexible endoscopes to transmit the visual image. *(Richard, 1993).*

Incoherent bundles are packed in a random fashion within the sheath of the flexible light cord. Since the transmitted light is scattered as it travels through the light bundle, the available light to the endoscope may be reduced to 15% of the origin. Increasing the diameter of the cord and adding more fibre bundles helps increase the available light, but larger cords are less flexible and are heavy. However, incoherent light cords are expensive, making the replacement cost more palatable. *(Richard, 1993).*

In recent years an alcohol light cord was introduced for photography and television. *(Richard, 1993).*

### Optics

As the light emerges from the endoscope in the pelvic cavity, its intensity decreases with the square of the distance between the endoscope and the organ viewed. Thus panoramic photographs of the entire pelvis or upper abdomen require much more light than do close-ups of ovaries, which are white and highly reflective. *(Hulka & Reich, 1994).*

Most laparoscopes provide a realistic image size when the end of the laparoscope is held 5cm from the object. Moving the laparoscope closer creates magnification and a “zoom” effect. *(Richard, 1993).*

Until the 1960s, lens chains consisted of small lenses interspersed with large distances of air. *(Hulka & Reich, 1994).*