COMPARISON BETWEEN LAPRASCOPIC ROUTE AND VAGINAL ROUTE IN VAGINAL VAULT CLOSURE IN TOTAL LAPRASCOPIC HYSTERECTOMY

Thesis

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مقارنة بين اغلاق سقف البدن عن طريق المنظار والمهبل بعد عملية استئصال الرحم بالمنظار

رسالة

توطئة للحصول علي درجة الماجستير فى أمراض النساء والتوليد

مقدمة من

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Contents

List of Abbreviations

AD.....:Anno Domini
AAGL.....:American Association of Gynecologic Laparoscopists
ALT.....:Alanine aminotransferase
ANOVA.....:Analysis of variance
AST.....:Aspartate aminotransferase
BMI.....:Body mass index
CBC.....:Complete blood count
DUB.....:Dysfunctional uterine bleeding
ECG.....:Elecrtocardiography
EIPICO.....:Egyptian International Pharmaceutical Industries Company
FDA.....:Food and Drug Administration
Fr.....:French
FSH.....:Follicle stimulating hormone
GnRH.....:Gonadotrophin releasing hormone agonists
INR.....:International normalized ratio
LAVH.....:Laparoscopic assisted vaginal hysterectomy
LEEP.....:Loop electrosurgical excision procedure
LH.....:Laparoscopic hysterectomy
MHz.....:Mega hertz
NRS.....:Numeric pain rating scale
NSAIDs.....:Non-steroidal anti-inflammatory drugs
PT.....:Prothrombin time
PTT.....:Partial thromboplastin time
SPSS.....:Statistical package for social sciences
UK.....:United Kingdom
USA.....:United States of America
VH .....:Vaginal hysterectomy

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Abstract

Introduction: Hysterectomy is defined as surgical removal of the uterus. It is one of the most gynecological operations all over the world. Benign diseases are responsible for more than 70% of the indications for hysterectomy. e.g: fibroids, pelvic pain and menstrual disorders

Aim of the work: The aim of this study is to compare between laparoscopic and vaginal vault closure in cases of total laparoscopic hysterectomy.

Patients and methods: Each of the 32 participants included in the study was given a number from 1 to 32. The numbers were put in closed envelopes where each envelope contained 1 number and each participant picked a number from one of the envelopes. Through a computer based randomization, each number corresponded to a procedure total laparoscopic hysterectomy and suturing either vaginal suturing or

Results: Data were analyzed using IBM© SPSS© Statistics version 23 (IBM© Corp., Armonk, NY) and MedCalc© version 18.2.1 (MedCalc© Software bvba, Ostend, Belgium). Continuous numerical data were presented as mean and SD and between-group differences were compared using the unpaired t test. laparoscopic suturing and either horizontal or vertical manner.

Conclusions: Vaginal vault closure can be performed safely and effectively both vaginally and laparoscopically. Vaginal route for vault closure was shorter and easier than laparoscopic route. Vaginal horizontal suturing was comparable to vaginal vertical. Laparoscopic vertical was easier and faster than laparoscopic horizontal

Key word:

laprascopic, route. Vaginal. closure. Laprascopic. hysterectomy

INTRODUCTION

Hysterectomy is defined as surgical removal of the uterus. It is one of the most gynecological operations all over the world. Benign diseases are responsible for more than 70% of the indications for hysterectomy. e.g: fibroids, pelvic pain and menstrual disorders ***(Whiteman et al., 2008).***

Hysterectomy is usually performed via laparotomy or vaginal access. In 1989, a new technique for hysterectomy is done called total laparoscopic hysterectomy and become an alternative mean of access to traditional technique of hysterectomy ***(Reich et al., 1989).***

Operative laparoscopy is considered to be the beginning of a new era in the history of gynecologic surgery. Endoscopic approaches have been described for most routine gynecologic procedures, and this was incorporated into surgical practice ***(Johns et al., 1995).***

The first laparoscopic hysterectomy was carried out in 1989 and since then, there have been many articles and studies investigating how practical is this technique. Large uterus (more than 16 weeks) was considered as a contraindication to the laparoscopic route and this was due to the inexperience of the surgeons and the unavailability of sophisticated instruments. With the huge progress in the field of laparoscopy and laparoscopic instruments,

laparoscopic assisted vaginal hysterectomy has become more popular ***(Wang et al., 2004).***

Many complicated procedures can now be carried out laparoscopically and this is because the operating field has become better due to the advance in CO_2 insufflators. However, when dealing with large uteri, some difficulties can face the surgeon such as the relatively limited operative field, difficulty in removing surgical specimen and poor approaching angle of laparoscopic instruments which can lead to more manipulations and subsequently higher incidence of morbidities ***(Wang et al., 2004).***

In spite of advantage of laparoscopic and vaginal access over laparotomy, this remains the most used access for performing hysterectomy all over the world ***(Gimbel et al., 2001)***. In 2003, about 538 722 hysterectomies were done in united states for benign diseases and the abdominal route still the most commom followed by vaginal access and laparoscopic ***(Wu et al., 2007)***.

The advantages of laparoscopic approach compared to open surgery includes : shorter operational time and hospital stay with faster recovery, less intraoperative bleeding with lower rate of wound infections and dehiscence ***(Johnson et al., 2006)***.

Many authors demonstrate that the rate of urethral and bladder injury increase with the laparoscopic access ***(Johnson et al., 2006; Makinen et al., 2001).***

In general, the indications for both laparoscopic and other types of hysterectomy are the same. If there is contraindications for vaginal hysterectomy, the laparoscopic approach can be done ***(Falcone et al., 2008).***

There are many contraindication for laparoscopic hysterectomy such as inadequate training of surgeons, lack of proper equipments, medical conditions that contraindicate the establishment and maintenance of pneumoperotineum, malignancy that may require removal of intact specimen ***(Sokol et al., 2009)***.

Aim of the work

The aim of this study is to compare between laparoscopic and vaginal vault closure in cases of total laparoscopic hysterectomy.

SURGICAL ANATOMY OF THE FEMALE PELVIS

Pelvic organs:

When viewing the female pelvis, the pelvic viscera can be easily identified, including the uterus, fallopian tubes, and ovaries. These gynecologic structures are closely associated with the bladder anteriorly, and recto-sigmoid colon posteriorly (Fig. 1). Centrally located, the uterus is a thick muscular organ. Embryo logically, it is derived from the fusion of the paramesonephric (mullerian) ducts.

The uterus is divided structurally and functionally into two portions: an upper muscular body called the corpus, and a lower fibrous called the cervix. The shape, weight, and dimensions of the uterus vary according to parity and estrogen stimulation ***(Delancy, 2008)***.

Before menarche and after menopause, the corpus and cervix are approximately equal in size, but during the reproductive years, the corpus of the uterus is significantly larger than the cervix.***(Dietrich et al., 2008).***

In the adult, nonpregnant woman, the uterus measures about7 cm in length and 5 cm in width at the fundus and weighs 30 to 40g***(Cunnigham, 2008)***.

Most women have an ante-verted and ante-flexed uterus in relation to the vaginal axis and cervical axis,

respectively. Approximately 25% of women can be found to have a retroflexed uterus, a normal variant, the uterine axis is important to note when invasive transcervical uterine procedures are performed to prevent inadvertent perforation and subsequent injury to adjacent vital structures or viscera ***(Mishell et al., 1997)***.

The uterine cervix begins caudal to the uterine isthmus and is approximately 2 cm in length. The wall of the cervix consists primarily of fibrous tissue and a smaller amount about 10% of smooth muscle. The smooth muscle is found on the periphery of the cervical wall and serves as the point of attachment for the cardinal and uterosacral ligaments and for the fibromuscular walls of the vagina. The attachments of the vaginal walls to the periphery of the cervix divides it vertically into a vaginal part known as the *portiovaginalis* and a supravaginal part known as the *portiosupravaginalis.****(Cunnigham, 2008).***

The upper border of the cervical canal is marked by the internal os where the narrow cervical canal widens out in the endometrial cavity while the lower border of the canal, called the *external cervical*os, contains a transition from squamous epithelium of the portiovaginalis to columnar epithelium of the cervical canal. The exact location of this transition, termed the squamocolumnar *junction* and also called the transformation *zone,* the site of most dysplastic cervical changes varies depending on