VAGINAL HYSTERECTOMY: EXTRAPERITONEAL VERSUS INTRAPERITONEAL APPROACH

Thesis

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Introduction

Hysterectomy's the most commonly performed gynecological procedure. Abdominal and vaginal routes have traditionally been the most common surgical approaches ***(Gendy et al., 2011).***

Whether the uterus should be removed vaginally or abdominally has been always the subject of controversy.

There is a fact that vaginal hysterectomy's associated with a lower morbidity, less operative time, shorter hospital stay, and to a more rapid post operative recovery than abdominal hysterectomy with no visible scar, thus, the vaginal route tends to become the preferred surgical approach for hysterectomy ***(Pierluigi et al., 2003)***.

This was confirmed by ***Van Den et al. (1998)***, when concluded that Vaginal Hysterectomy scored the most points in terms of patient's satisfaction and well being.

Ottosen et al. (2000), showed that vaginal hysterectomy should be considered the primary method for hysterectomy. This is especially in the obese who should discourage the abdominal route as the production of an abdominal wound renders post operative recovery more complex increasing the risk of morbidity and mortality, therefore, the surgeon should offer the least invasive surgery ***(Shirish, 2010)***.

There is a number of pre-existing clinical conditions that are generally accepted as contraindications to vaginal hysterectomy or, in other words, relative contraindications, like moderate to excessive uterine enlargement, nulliparity, previous pelvic surgeries, and the presence of adenxal pathology ***(Pierluigi et al., 2004)***.

However, experienced surgeons find adhesiolysis easier to performed vaginal than from above at laparotomy ***(Shirish, 2009)***, and the operator may be surprised that vaginal adenexectomy is usually possible ***(Shirish, 2002)***.

Indeed the more tools in the surgeon's armamentarium the more confident he becomes when meeting challenges during vaginal hystrectomy when there're fewer alternatives available to manage unexpected findings ***(Ottosen et al., 2000)***.

One of the most difficult and potentially frustrating aspects of vaginal hysterectomy can be the failure to safely enter the peritoneal cavity early in the procedure. This is often because of an excessively long cervix, minimal uterine descent, and high post peritoneum or an obliterated Cul de Sac. Concerns about injury to the bladder and rectum, unnecessary blood loss or later failure to complete it vaginally may lead to unnecessary abandonment of the planned vaginal route.

Here extraperitoneal approach of vaginal hysterectomy appears as a potential solution. It starts by an extraperitoneal dissection of the uterosacral ligaments to obtain more uterine descent and thus improve the access to the posterior peritoneal fold ***(Unger, 1997)***.

It can be more extensive extraperitoneal dissection or "climb up" technique involving not only the uterosacrals but the cardinal ligaments and uterine vessels as well and sometimes extraperitoneal uterine morcellation ***(Krige, 1965)***.

AIM OF THE WORK

To compare the procedure of extraperitoneal vaginal hysterectomy to the intraperitoneal approach regarding: the operative time, uterine weight, heamoglobin decrease, the hospital stay and finally the operative and post operative complications, aiming to evaluate the safety and the efficacy of the technique and to study whether it can be used as a standard technique for vaginal hysterectomy.

PATIENTS AND METHODS

This study will be performed at Ain Shams Maternity hospital. The type of the study is a double armed randomized clinical trial including 54 cases, the cases will be divided into two groups:

Group A patients:

Formed of 27 cases, and will be subjected to the intraperitoneal approach or the standard method of vaginal hysterectomy, in which the posterior peritoneal fold is identified and opened, then the uterosacral ligaments and the cardinal ligaments are clamped, incised and sutured. Then the anterior peritoneum is next identified and opened to proceed in the further steps of vaginal hysterectomy.

Group B patients :

Formed of 27 cases, and they'll be subjected to the extraperitoneal approach of vaginal hysterectomy, in which the uterosacrals and cardinal ligaments will be clamped and cut extraperitoneally. Care should be taken to avoid injury to the rectum during this dissection. The bladder pillars will be also taken, particularly if they are prominent or to ensure complete dissection of the urinary bladder. The uterine vessels will be clamped and ligated in an extraperitoneal manner as well.

At this point, the posterior peritoneum will be identified and sharply opened, then the anterior peritoneum next, identified and opened to proceed in the steps of vaginal hysterectomy in the usual manner, and other operative procedures will be performed as indicated or planned.

All cases will be blinded, i.e the study will be carried out as a single blinded study and they will return for follow up and recommended postoperative examination during 4 to 8

weeks after surgery. Charts will be available for review of all patients.

All patients will have:

- Careful history taking.
- General examination.
- Local examination.

Preoperative laboratory investigations:

- Complete blood count
- Liver and kidney function tests
- Blood glucose levels
- Coagulation profile.

- Transvaginal ultrasound assessment.

And the indication of every case will be documented as well as a legal consent from the patient, will be taken to be included in the study

The inclusion criteria of the selected cases:.

-A uterine size < 16 weeks.
-At least first degree of uterine descent.
-Mobile uterus.
-Voluminous cervix.
-Absence of adenxal pathology.
-No previous vaginal surgeries.

The exclusion criteria:

-Excessively large uterus, > 16 weeks.
-No degree of uterine descent.
-Nulliparity or no Prior vaginal delivery
-Restricted uterine mobility.
-Endometriosis
-Cervix flush with the vagina or inaccessible cervix
-Previous vaginal surgery

Sample size justification:

Sample size was calculated using STATA® version 11 program, setting the type-1 error (*a*) at 0.05 and the power (1-β) at 0.08 Results from a previous study (Unger, 1997) showed that mean operative time in intraperitoneal technique was 52.9 ± 24.1, while for extraperitoneal technique it was 71.9 ± 25.6. Calculation according to these values produced a minimal sample size of 27 cases for each study group.

Reference for program :

StataCorp. 2001. Statistical Software : Release 7.0. College Station, TX: Stata Corporation.

Statistical methods:

Statistical analysis is to be performed using statistical package for social science (SPSS) for windows version 15.0 measured data will be described as range, mean and standard deviation (for parametric variable), range, median and interquartile range (for non parametric variables), number and percentage (for categorical variables). Difference between two unrelated groups will measured using unpaired student's t-test (for parametric variables), Mann-Whitney's U-test (for non-parametric variables) and Chi-squared test (for categorical variables). Association between variables will be assessed using Pearson's correlation coefficient (for parametric variables) and spearman's rank correlation coefficient (for non-parametric variables). Significance level will be set at 0.05.

Bibliography:

The References will be alphabetically arranged… and for the same author, it will be chronologically arranged.

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AH	:	Abdominal hystrctomy.
ALT	:	Alanine transaminase
AP	:	Anteroposterior
AST	:	Aspartate transaminase
DUB	:	Dysfunctional uterine bleeding
GnRH	:	Gonadotropin-releasing hormone
Hb	:	Haemoglobin
HCV	:	hepatitis C virus
LAVH	:	Laparoscopic assisted vaginal hysterectomy.
SD	:	Standard deviation
TVS	:	Transvaginal ultrasonography
VH	:	Vaginal hystrectomy