Outcome of Total laparoscopic hysterectomy in Qena University Hospital

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Abstract

Background: Worldwide hysterectomy is the most commonly performed major gynecological surgical procedure**.** Benign diseases are responsible for more than 70% of the indications for hysterectomy include menstrual disorders, myomas, pelvic pain, and uterine prolapse.

Objectives: to determine outcomes of total laparoscopic hysterectomy in Qena University Hospital as regard of operative time, hospital stay and complications.

Patients and Methods: This was a descriptive observational clinical study. It was conducted on 50 cases in the period between April 2016 to march 2019 (3 years). Patients with different indications for hysterectomy were recruited from the outpatient clinic of department of obstetrics and gynecology, Qena University hospital, South Valley University, Egypt after complete evaluation.

Results: it was clear that (40%) heavy menstrual bleeding/ fibroid; (50%) had endometrial hyperplasia and (10%) had other diagnosis. Regarding operative time distribution, our results showed that (70%) had operative time <90 min; (28%) were 90-120 min and (2%) were >120 min.In our study there were no operative complications. Regarding estimated blood loss, (24%) had estimated blood loss <120 ml, (22%) had estimated blood loss 170 ml and (54%) had estimated blood loss >170 ml. Regarding post-operative complications , our results showed that that (4%) had fever more than 38 degree after the first 24h, (4%) had reactionary hemorrhage (vaginal or internal) and (2%) had wound infection. In our study, it was obvious that the conversion to laparotomy was (0%). post-operative pain was recognized by VAS. (70%) of the study group had mild, (26%) had moderate, and (4%) had severe post-operative pain. Regarding the hospital stay distribution of the study group, it was found that (90%) stayed <48h, (6%) stayed 48-72 hrs and (4%) stayed >72 hrs.

Conclusion: Total laparoscopic hysterectomy is safe and feasible method for gynecological diseases. TLH may offer specific benefits for properly selected patients. Its advantages are lower post-operative complications, less postoperative pain, shorter hospital stay and faster return to activity.

Key words: total laparoscopic hysterectomy, outcome, operative time, hospital stay, complications

Introduction

Hysterectomy is the second most frequently performed surgical procedure on women, after cesarean section, More than 300 000 inpatient hysterectomies were performed in the US in 2012 **(Knight et al., 2018).**

Methods available for hysterectomy are total abdominal hysterectomy (TAH), vaginal hysterectomy (VH), laparoscopic hysterectomy (LH), laparoscopic subtotal hysterectomy (LSH) and robotic-assisted hysterectomy (RAH)**(Istre and Snejbjerg, 2018).**Surgical routes were distributed as follows: abdominal (52.8%),

vaginal (14.7%) and laparoscopic (32.4%). Two fifths of laparoscopic hysterectomies performed for benign indications were robotically assisted. The majority of hysterectomies were done abdominally, though benefits of the vaginal and laparoscopic routes have largely been demonstrated in terms of speedier return to normal activities, lower intraoperative blood loss, reduced wound infections and enhanced cosmetic results. For benign indications, the Cochrane

database recommends to favor the vaginal approach over the abdominal approach, and to attempt laparoscopic hysterectomy when vaginal hysterectomy is not possible (**Aarts et al., 2015).**

Total laparoscopic hysterectomy (TLH) has notable advantages over vaginal hysterectomy, such as allowing an optimal exploration of the abdominal cavity. This aspect is particularly interesting in oncological gynecology and for certain benign indications. Furthermore the laparoscopic route offers the possibility to perform additional procedures such as sacrocolpopexy for prolapse treatment or lymphadenectomy in the oncological field. Thus, LH has become the procedure of choice in surgical oncology for treatment of endometrial cancer **(Beck et al., 2016).**

Total laparoscopic hysterectomy (TLH) has been shown to be a safe method with decreased pain, decreased wound infection, reduced hospital stay and earlier return to activity when compared to abdominal hysterectomy (AH) **(Suisted and Chittenden, 2017).**

The term 'TLH with classical suture method' refers to a surgical procedure performed using only sutures and ligations with intracorporeal or extracorporeal ties, without using any laser or electronic cauterization devices during laparoscopic surgery as in total abdominal hysterectomy**(Kang et al., 2016).**

Fever and venous thromboembolism are the most common complications of hysterectomy, occurring in one of every 2 to 6 patients. Bowel injury and vaginal cuff dehiscence are much less common, occurring in <1% of patients. Blood transfusion, urinary tract injury, infection, and neuropathy occur in 1% to 10% of patients. Life-threatening complications after hysterectomy are rare and most patients achieve full recovery(**Hodges et al., 2014).**

Aim of the work:

To determine outcomes of total laparoscopic hysterectomy in Qena University Hospital as regard of operative time, hospital stay and complications.

Patients and methods:

This was a descriptive observational clinical study. It was doneon50 cases in the period between April 2016 to march 2019 (3 years). The patients for this study with different indications for hysterectomy were recruited from the outpatient clinic of department of obstetrics and gynecology, Qena University hospital, South Valley University, Egypt after complete evaluation.

A Written consent was taken from every participant in the study according to the ethical committee of the faculty of medicine, South Valley University, Egypt

All patients indicated for hysterectomy as those of postmenopausal bleeding, dysfunctional uterine bleeding (DUB), not responding to medical treatment, chronic pelvic pain after exclusion of other causes and adenomyosis.

While patients with absolute contraindication for laparoscopic surgery or uterine size >16 week were excluded from the study.

All patients were subjected to detailed history; complete physical examinations, pre-operative investigations included (CBC, coagulation profile, blood sugar, liver function, and creatinine level). U/S evaluation was done by By 2D ultrasound sonoscape s22 to detect uterine size, position, antro-posterior diameter, fundal-isthmic diameter and endometrial thickness and to detect the presence of any uterine or pelvic pathology as fibroids or endometrial polyp by using 2D trans-vaginal ultrasound. Written consent for (TLH), laparotomy, and possibility of complications.

Statistical analysis:

Statistical analysis was performed using SPSS software (version 21.0) and statistical significance was considered using student's t-test value of ≤0.05 was considered ≤0.05 was considered.

Results:

Table (1): Demographic data distribution of the study group

Demographic data	Total (N=50)
Age (years)	
Range	40-69
Mean ±SD	48.02±7.22

BMI (wt/(ht)^2]	
Range	36.31-47.11
Mean ±SD	42.13±3.79

This table shows that the range of age was 40-69; mean age was 48.02±7.22, and BMI range 36.31-47.11 with mean 42.13±3.79

Table (2): Diagnosis distribution of the study group

Diagnosis	Total (N=50)
Postmenopausal bleeding	25 (50%)
Irregular uterine bleeding not responding to medical treatment	20 (40%)
Other	5 (10%)

Table 2. shows that (50%) had postmenopausal bleeding; (40%) of cases irregular uterine bleeding and (10%) had other diagnosis

Table (3): Operative time (min) distribution of the study group

Operative time (min)	Total (N=50)
<90 min	35 (70%)
90-120 min	14 (28%)
>120 min	1 (2%)
Mean±SD	131.87±39.42

Table 3.shows that (70%) had operative time <90 min ; (28%) were 90-120 min and (2%) were >120 min.

Table (4): Operative complications distribution of the study group

Operative complications	Total (N=50)
Vascular	0 (0%)
Intestinal	0 (0%)
Urinary tract injuries	0 (0%)

This table shows that the no operative complications.

Table (5): Estimated blood loss distribution of the study group.

Estimated blood loss (mL)	Total (N=50)
<120 ml	12 (24%)
120-170 ml	11 (22%)
>170 ml	27 (54%)
Mean ± SD	165.35±89.40

Table 5.shows that (24%) had estimated blood loss <120 ml, (22%) had estimated blood loss 170 ml and (54%) had estimated blood loss >170 ml.

Table (6): Postoperative complications distribution of the study group

Post-operative complications	Total (N=50)
Fever more than 38 degree after the first 24h	2 (4%)
Reactionary hemorrhage (vaginal or internal)	2 (4%)
Wound infection	1 (2%)

Table 6. shows that (4%) had fever more than 38 degree after the first 24h, (4%) had Reactionary hemorrhage (vaginal or internal) and (2%) had wound infection.

Table (7): Conversion to laparotomy distribution of the study group

Conversion to laparotomy	Total (N=50)
Yes	0 (0%)
No	50 (100%)

This table shows that the conversion to laparotomy (0%).

Table (8): Post-operative pain recognized by VAS distribution of the study group

Post-operative pain recognized by (VAS)	Total (N=50)
Mild	35 (70%)
Moderate	13 (26%)
Severe	2 (4%)

Table 8. shows that (70%) of the study group had mild, (26%) had moderate, and (4%) had severe post-operative pain.

Table (9): Hospital stays (hrs) distribution of the study group.

Hospital stay (hr)	Total (N=50)
<48h	45 (90%)
48-72	3 (6%)
>72	2 (4%)
Mean ± SD	62.84±14.74

Table 9.shows that(90%) stayed <48h, (6%) stayed 48-72 hrs and (4%) stayed >72 hrs.

Discussion

Total laparoscopic hysterectomy (TLH) is established as a safe method of hysterectomy, with a satisfactory patient experience**(Suisted; Chittenden, 2017)**.TLH may offer a minimal blood loss, short hospital stay, and be practicable in most women with minimal risk of complications **(O'Hanlon et al., 2007).**

By lowering the amount of time spent as an inpatient, patients are exposed to fewer nosocomial infections, in theory decreasing the risk of iatrogenic infections.TLH could be performed successfully in most obese patients, and operating room times are comparable to those of abdominal hysterectomies.Some authors agree that TLH is safe and feasible in the presence of enlarged uteri and in women with certain types of gynecologic cancer **(Bonilla et al., 2010).**

The present study aimed to determine outcomes of total laparoscopic hysterectomy in Qena University Hospital as regard of operative time, hospital stay and complications.

Results of the present study showed that the range age 39-60 and mean 48.02±7.22, and BMI range 36.31-47.11 with mean 42.13±3.79. In **O'Hanlon et al., 2007**study,patients had a mean age of 50 (±11) years and a mean BMI of 27.6 (±6.8) kg/m2.**Rossitto et al., 2016**stated that patients had a median age of 51.5 years (range 44-72 years) and a median BMI (body mass index) of 25.3 (range 19.7-30.4).

Regarding diagnosis distribution, it was clear that (40%) heavy menstrual bleeding/ fibroid; (50%) had endometrial hyperplasia and (10%) had other diagnosis.

Yao et al., 2005found that, out of the 216 patients, 24 had dysfunctional uterine bleeding, 5 had atypical endometrial hyperplasia, 139 uterine fibroid, 46 had adenomyosis, 2 had cervical carcinoma in situ and 36 had a previous lower abdominal surgery.

Schindlbeck et al., (2008)found that, indications for TLH were fibroids (n = 21), endometrial cancer (n = 10), bleeding anomalies (n = 7), dysplasia of the cervix uteri (n = 3) and others; out of 43 patients.

Regarding operative time distribution, our results showed that (70%) had operative time <90 min; (28%) were 90-120 min and (2%) were >120 min. **O'Hanlon et al., 2007**found thatthe mean surgical duration was 132 (±55) minutes.**Chapron et al.,1995**stated that the mean duration of the operation was 163 min (range: 110-270 min). **Yao et al., 2005**found that the mean operating time was (103 +/- 35) min. **Malinowski et al., 2013**found thatmean time of procedure was 68 min. (58-135

min.).**Rossitto et al., 2016**stated thatthe median operative time was 67min (range 45-180min).

In our study there were no operative complications. These results agree with **Rossitto et al., 2016** where no intraoperative complications occurred.

Regarding estimated blood loss, (24%) had estimated blood loss <120 ml, (22%) had estimated blood loss 170 ml and (54%) had estimated blood loss >170 ml. **Yao et al., (2005)** found that the average amount of blood loss was 83 +/- 45 ml (60-320 ml) during operation. **O'Hanlon et al., 2007**found that mean blood loss was 130 (±189) mL. **Malinowski et al., 2013**found that estimated blood loss was 166.6 ml. **Rossitto et al., (2016)** stated that median estimated blood loss of 50ml (range 10-100ml) were registered.

Regarding post-operative complications , our results showed that that (4%) had fever more than 38 degree after the first 24h, (4%) had reactionary hemorrhage (vaginal or internal) and (2%) had wound infection. **Malinowski et al., 2013**found thatoverall, only 2 patients suffered long-term complications (1.26%). While, **Chapron et al., 1995**stated that no serious peri or post-operative complications were encountered.

Bonilla et al., 2010found thatThirty-five patients (6.8%) experienced postoperative complications; 24 (4.7%) were considered major. These included 7 vaginal cuff cellulites, 5 vaginal cuff dehiscences, 4 wound infections, 2 pelvic abscesses, 1 each of vesicovaginal fistula and thromboembolic event, and 4 other major complications. Eleven (2.2%) were classified as minor complications.

In our study, it was obvious that the conversion to laparotomy was (0%). These results agree with **Rossitto et al., 2016** where no conversions to standard laparoscopy or laparotomy were needed. **Yao et al., (2005)**also stated that no case was converted to laparotomy.

These results disagree with **Terzi et al., 2016**who found thatconversion from laparoscopy to laparotomy was required in five patients. Also, **O'Hanlon et al., 2007** found that(0.6%) were converted to laparotomy. **Chapron et al., 1995**stated that in one case (2%), they converted to laparotomy.

The postoperative pain after TLH is often difficult to control, which causes increased opioid use and delayed discharge from hospital, despite being a minimally invasive laparoscopic surgery(**Choi et al., 2016).**

In our study, post-operative pain was recognized by VAS. (70%) of the study group had mild, (26%) had moderate, and (4%) had severe post-operative pain.

Donnez et al., 2015found that at 1 hour after surgery, the mean visual analog scale (VAS) score was <4 (3.5 ± 2.6); the mean score dropped to <2 (1.9 ± 1.2) by 4 hours after surgery and remained so throughout day 1 (1.8 ± 1.4). Thus, VAS scores were significantly lower at 4 hours and day 1 post surgery than at 1 hour post-surgery.

Regarding the hospital stay distribution of the study group, it was found that (90%) stayed <48h, (6%) stayed 48-72 hrs and (4%) stayed >72 hrs. Also, in **O'Hanlon et al., 2007**study, average hospital stay was 1.4 (±0.9) days. While, **Malinowski et al., 2013**found thatmean hospital stay after the surgery was 2.9 days. While **Yao et al., 2005** found that the average hospital stay after operation was (5.3 +/- 1.9) days.

Conclusion:

Total laparoscopic hysterectomy is safe and feasible method for gynecological diseases. TLH may offer specific benefits for properly selected patients. Its advantages are lower post-operative complications, less postoperative pain, shorter hospital stay and faster return to activity.

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