International Surgery Journal
Kumar GS et al. Int Surg J. 2016 Aug;3(3):1141-1145
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: http://dx.doi.org/10.18203/2349-2902.isj20162416

Research Article

Complications after a total laparoscopic hysterectomy: a study in tertiary care unit in Telangana, India

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Received: 15 July 2016
Accepted: 18 July 2016

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ABSTRACT

Background: Total laparoscopic hysterectomy (TLH) is a procedure in which removal of the uterus and cervix through four small abdominal incisions occurs. The total laparoscopic hysterectomy has been described as potentially quicker, more efficient and associated with less blood loss than LAVH4 and is also more achievable in nulliparous and obese women.
Methods: This observational study was performed on 121 patients after taking medical and surgical details. Routine blood tests were performed one day prior to the surgery. Total laparoscopic surgery was performed with 4 trocars under general anaesthesia. All the patients were followed up for 6 months.
Results: The mean age observed among the 121 patients who underwent total laparoscopic hysterectomy were 58.2. years and the age for attaining menarche was 12.1 years. Only 13.2% of the women were nulliparous while 86.8% of them were multiparous. The most common diagnosis preoperatively was myomatous uterus (31.4%), pelvic mass (19.8%) and pelvic pains (14.9%). Adhesiolysis (27.3%) and cytoscopy (19.8%) were the most common additional procedures which were done during the laparoscopy. The numbers of complications observed were 24 (19.8%), with urinary tract infection and urinay incontinence being the most common (5% each).
Conclusions: With experienced surgeons, this procedure is extremely safe with minimum post-operative complications.

Keywords: Laparoscopy, Hysterectomy, Complications

INTRODUCTION

Hysterectomy is one of the most performed major gynaecological procedures all over the world.[1] It is estimated that an incidence of 1:461 women occurs in US corresponding to 600,00 hysterectomies per year.[2-4] In Canada, in 2008-2008, 338 hysterectomy procedures were performed in women aged around 20 years.[5] In the United Kingdom about 100,000 hysterectomies are performed annually.[6]

There are three main approaches to a hysterectomy-abdominal, vaginal and laparoscopic, but yet there are conroversies regarding the optimal route for the procedure.

Total laparoscopic hysterectomy (TLH) is a procedure in which the removal of the uterus and cervix through four small (1/2'-1') abdominal incisions occur. Removal of the ovaries and tubes depends on the patient.[7] All of the surgical dissections, ligations and sutures are completed entirely through the trocars, including the closure of the

vagina. Compared to abdominal hysterectomy (AH) and laparoscopic-assisted vaginal hysterectomies, total laparoscopic hysterectomies result in shorter duration of the surgery, blood loss and as a result shorted hospital stay.[8,9] Usually vaginal hysterectomy and LVAH are performed in women with moderate prolapsed which is normally associated with parity, but some of these patients may later develop prolapsed or incontinence.[10] The total laparoscopic hysterectomy (TLH) has been described as potentially quicker, more efficient and associated with less blood loss than LAVH4 and is also more achievable in nulliparous and obese women.[11,12]

This study was performed to analyze the complications that can occur in total laparoscopic hysterectomy.

METHODS

This observational study was conducted by the Department of Surgery and OBGY during the period of two years at Deccan College of Medical Sciences. 121 patients, who underwent laparoscopic surgery for hysterectomy were included into the study.

After properly explaining the procedure to the patients, informed consent was taken from all of them. Detailed demographic details such as age, height, weight, body mass index, age at menarche, pre or postmenopausal status, any hormonal imbalance and the medications used, parity, medical and previous surgery history were also taken.

All the patients were admitted to the hospital on the day before surgery and routine tests such as blood tests for complete blood counts, erythrocyte sediment rate, hemoglobin levels, random blood sugar levels, HBsAg, HIV, electrocardiogram, etc. were done.

All the surgeries were performed under general anesthesia. Prior to the surgery, all patients received a single dose of cefotaxim as prophylactic antibiotic. Four incisions were made using transumbilical approach, using 10 mm umbilical trocar, two lateral trocars and one 5mm suprapubic trocar. The optical trocar was inserted through the umbilicus under direct vision. The abdomen was completely surveyed to rule out any injuries caused due to the insertion. The lower quadrant trocars were placed under direct vision lateral to therctus abdominal muscles and medial to the anterior superior iliac spine. A 5 mm trocal is placed above and parallel to the left trocar site.

First a diagnostic laparoscopy is done to identify the ureters and if there is a requirement for adhesiolysis or endometriosis treatment. The left round ligament is clamped, followed by the dissection of the broad ligament anterior leaf which is dome up to the peritoneal vesicouterine fold. The posterior leaf of the broad ligament is then divided and the utero-ovarian ligament is clamped. The same procedure is done on the right hand side. Finally, the vesicouterine space is dissected and the bladder is pushed down while clamping the uterine arteries, cardinal and utero-sacral ligaments. After the circular colpotomy, the uterus is removed through the vaginal route and the vaginal cuff is closed laparoscopically with bilateral utero-sacral ligament vaginal vault suspension.

All the patients are followed up for 6 months to check for any further complications.

RESULTS

The mean age observed among the 121 patients who underwent total laparoscopic hysterectomy were 58.2. years and the age for attaining menarche was 12.1 years. Only 13.2% of the women were nulliparous while 86.8% of them were multiparous. 29.8% of them had high blood pressure while 31.4% had diabetes (Table 1).

Table 1: General details of the patients.

General details	Number (%)
Age	58.2±6.1
Menarche (mean±SD)	12.1±3.2
Nulliparous	16 (13.2%)
Multiparous	105 (86.8%)
Premenopausal	81 (66.9%)
Postmenopausal	40 (33.1%)
Body mass index	25.9±4.1
High blood pressure	36 (29.8%)
Depression	14 (11.6%)
Dyslipidemia	16 (13.2%)
Endocrine disorders	26 (21.5%)
Diabetes mellitus	38 (31.4%)
Overweight/obese	41 (33.9%)

The most common diagnosis preoperatively was myomatous uterus (31.4%). Pelvic mass (19.8%) and pelvic pains (14.9%) were other common complaints for hysterectomy (Figure 1).

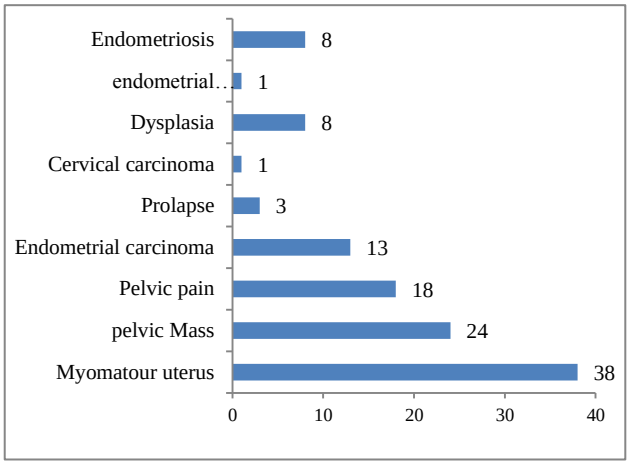

Figure 1: Preoperative diagnosis.

Adhesiolysis (27.3%) and cytoscopy (19.8%) were the most common additional procedures which were done during the laparoscopy. Appendectomy was done in 4.1% of the cases and omenectomy in 5% (Table 2).

Table 2: Additional procedures performed during the laparoscopy.

Procedures	Number	Percentage
Cystoscopy	24	19.8
Appendectomy	5	4.1
Lymph node dissection	9	7.4
Omentectomy	6	5
Ureterolysis	4	3.3
Excision of endometriosis	4	3.3
Adhesiolysis	33	27.3
Continence surgery	1	0.8

The number of complications observed were 24 (19.8%), with urinary tract infection and urinay incontinence being the most common (5% each). Cystotomy and bladder fistula were also see in a few cases. In 2 patients, the surgery was converted to laparotomy (Table 3).

Table 3: Complications observed in the patients.

Complications	Number (%)
Cystotomy	3 (2.5%)
Bladder fistula	2 (1.7%)
Ureter fistula	1 (0.8%)
Bowel injury	1 (0.8%)
Urinary tract infection	6 (5%)
Conversion to laparotomy	2 (1.7%)
Major anaesthesia complication	1 (0.8%)
Bleeding	1 (0.8%)
Iatrogenic injury	1 (0.8%)
Urinary incontinence	6 (5%)

DISCUSSION

Shortly after its advent, laparoscopic hysterectomy was criticized as it was technically, difficult to perform, required very experienced doctors, had longer duration of surgery and there was an increase in major complications. But its benefits were far more than these disadvantages, such as less post-operative pain, lesser amount of hospital stay, faster recovery rate etc.[13-17] However, the recent study show a concensus among the researchers and present this procedure as a very safe procedure and preferred to be the first line treatment for hysterectomy in many countries although in some places, vaginal hysterectomy is still considered to be the most preferred surgery.[13,14,18,20,21]

In present study, there was a wide range of diversity in the age among the patients. Hence, it was reported that the patient need not be in an advanced age to be at risk for hysterectomy. Similar was the case in O'Hallan et al study, where age was not a risk factor for the patients to undergo hysterectomy.[22-24] It has been earlier reported that TLH does not depend on vaginal dexcencus, capacity or laxity and as a result, minimally invasive hysterectomy can be available to more women including those who are nulliparous or obese.[22] Yet, in another study by Noguiera S et al, considerable number of patients had a higher BMI and 42% of the patients were either overweight or obese.[25]

The main cause for hysterectomy was fibroids in the uterus seen in 31.4%, while 19.8% of the patient had pelvic mass. Fibroids has been reported as the major indication for hysterectomy in many studies as well as in literature.[16,18,26-28] Histopathological results are also as expected from the major surgical indications, namely fibroids were present in 69.1% of surgical specimens.

Other ancillary surgeries were performed along with the laparoscopic study such as appendectomy, oomenectomy, cystoscopy, thereby the patient not requiring an additional surgery for these purposes. Many other studies reported a similar procedure wherein other ancillary procedures were perfume during the TLH, avoiding another surgery.[25,26]

The major complication rate was 1.7% in present study, all of which required a conversion from TLH to open laparotomy. Of the minor infections, the prominent one was urinary tract infection which was seen in 5% of the patients and lead to urinary incontinence. The rate of 1.7% for major surgeries was observed by Silva et al, wherein 1.5% was seen.[25] Donnez et al described in their retrospective study with 400 patients who underwent laparoscopic hysterectomy procedure a major complication rate of 1.5%.[18]

Bowel injury was encountered in only one patient (0.8%) which occurred during the operation. It was immediately identified and rectified. The incidence of the bowel injury is reported to be 0%-0.5%.[29] The bowel injuries take place during the entry or during the surgery. Most of the times, these remain undetected till after the surgery and can be life threatening. It is therefore considered to be one of the leading causes of mortality due to TLH.[30]

A higher rate of minor complication of around 12% was observed in present study, which was similar to a study by Hoffman et al who reported a rate of 17.6%. 5% case of urinary incontinence was observed which according to a study by Walsh et al was considered to be a vesical dysfunction and should be assessed as a long-term complication of the laparoscopic approach.[3]

Although the minor complications are taken care of with immediate effect, in the long run, leads to long-term complications which include, early menopause, impaired sexual function and occasionally psychological effects: Injury to the bladder or ureters, pain during sexual

intercourse, vaginal prolapse, early menopause, and decreased interest in sex.

CONCLUSION

The present study showed that total laparoscopic hysterectomy is minimally invasive and is related to low post-operative complications, less number of hospital days and fast rate of discharge. More number of women, including those who are overweight or obese or nulliparous can undergo this surgery, with minimal risk.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the institutional ethics committee

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Cite this article as: Kumar GS, Lekkala S. Complications after a total laparoscopic hysterectomy: a study in tertiary care unit in Telangana, India. Int Surg J 2016;3:1141-5.