



COMPARATIVE STUDY OF LAPAROSCOPIC HYSTERECTOMY AND ABDOMINAL HYSTERECTOMY: OUR EXPERIENCE

Gynaecology

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ABSTRACT

Objective: Hysterectomy can be performed by abdominal, vaginal and laparoscopic method. The abdominal approach is still being used by most of surgeons as operation of choice but Laparoscopic method has many advantages like magnified view of the operating field and the observation of the pelvic organs in a more natural state, with less tissue handling as well as early post operative recovery. The aim of present study is to evaluate and compare the results of total Laparoscopic hysterectomy (TLH) and total abdominal hysterectomy (TAH).

Material and methods: A retrospective case control study was carried out in the department of obstetrics and Gynecology in Pacific Institute of Medical Sciences, Udaipur, Rajasthan. during the period of one year from May 2017 to May 2018. Women of all ages, having benign disease with uterus size of less than 12 weeks were included in the study. A total of 60 files were reviewed, 30 for TAH and 30 for LH.

Results: Among the hysterectomy in the LH group, 8 cases (26.66%) were done by LAVH technique, 21 cases (70%) were done by TLH technique. One case (3.33%) in the same group was converted to TAH in view of dense adhesions. Mean operation time was longer in LH group (138.7±31.5 minutes) than TAH group (113.5±33.8 minutes). Mean hospitalization time was shorter for patients who undergone LH (3.1±0.9 days) than patients who undergone TAH (6.92 ± 1.1 days). The average estimated blood loss was found to be more in TAH (78.5±6.8 ml) than LH (64.6±5.7 ml). Neither of groups had intraoperative complications, 1 patient who had TLH and 2 patients who had TAH had postoperative fever. One case of TAH developed wound infection which was managed conservatively.

Conclusion: LH is safe and reliable alternative to open surgery in the management of benign gynecological diseases, with the advantage of less intraoperative blood loss, fast recovery and short hospital stay and significantly less amount of pain.

KEYWORDS

Laparoscopic Hysterectomy, Total Abdominal Hysterectomy, Vaginal Hysterectomy, Endometriosis

Introduction:

Hysterectomy is most common major operation after Caesarean Section.(1) Hysterectomy can be performed by abdominal, vaginal and laparoscopic method. There are no specific criteria that can be used to determine the route of hysterectomy. The vaginal route is preferred when there is no contraindication, as it has lower morbidity and quicker recovery. The morbidity associated with abdominal incision is avoided, reduces the depth and height of anesthesia, need for nursing care is reduced etc (2). The main disadvantage is that it doesn't allow free access to the pelvic organs.(3) The abdominal approach is still being used by most of surgeons as operation of choice because of many advantages like it provides surgeon good visibility and easy access to the pelvic organs, enables removal of a very large uterus and large areas of endometriosis, adenomyosis, and scar tissue, cervix can be removed or left in place, required less time under anesthesia and in surgery than laparoscopic hysterectomy.(4) At the same time the disadvantages are painful abdominal incision, longer hospital stay and recovery time, a large scar, longer convalescence, costs more than vaginal hysterectomy.(5)

Laparoscopic hysterectomy (LH) has been introduced since 1989 and represents one of the most advanced gynecological minimal access procedures. One of the claims of proponents of LH has been that the postoperative recovery of patients is superior to that of conventional abdominal hysterectomy. LH has the potential of converting many patients who otherwise would have an abdominal hysterectomy to a total laparoscopic or laparoscopically assisted vaginal procedure. The endoscopic surgery provides the gynecologist with many advantages compared to conventional laparotomy procedures. These include a magnified and improved view of the operating field and the observation of the pelvic organs in a more natural state, with less tissue handling. The aim of present study is to evaluate and compare the results of total Laparoscopic hysterectomy (TLH) and total abdominal hysterectomy (TAH).

Material and methods:

A retrospective case control study was carried out in the department of obstetrics and Gynecology in Pacific Institute of Medical Sciences, Udaipur, Rajasthan. during the period of one year from May 2017 to May 2018. Women of all ages, having benign disease with uterus size of less than 12 weeks were included in the study. A total of 60 files were reviewed, 30 for TAH and 30 for LH. The LH was either total LH

(TLH) or laparoscopic assisted vaginal hysterectomy (LAVH). The outcomes of LH and abdominal hysterectomy were compared in terms of duration of surgery, perioperative complications, and recovery of the patients.

Data was registered as mean ± standard deviation and percentage. Data analysis was done with chi square and student-t tests of SPSS program. $p < 0.05$ value was regarded as statistically significant.

Results:

There was no difference in the patient profile in terms of age, parity, body mass index (BMI), and uterine size of patients in both groups. The common indications for hysterectomy were the same in both LH and TAH groups which were fibroid and dysfunctional uterine bleeding (DUB). The other causes include endometriosis, adnexal cyst, and recurrent postmenopausal bleeding.

Among the hysterectomy in the LH group, 8 cases (26.66%) were done by LAVH technique, 21 cases (70%) were done by TLH technique. One case (3.33%) in the same group was converted to TAH in view of dense adhesions.

Mean operation time was longer in LH group (138.7±31.5 minutes) than TAH group (113.5±33.8 minutes) and this was statistically significant (P value < 0.001).

Mean hospitalization time was shorter for patients who undergone LH (3.1±0.9 days) than patients who undergone TAH (6.92 ± 1.1 days) and this was statistically significant (P value < 0.001).

The average estimated blood loss was found to be more in TAH (78.5±6.8 ml) than LH (64.6±5.7 ml) and it was statistically significant (P value < 0.001). There was necessity of blood transfusion for one patient who had TLH and for two patients who had TAH, this was not statistically significant. Neither of groups had intraoperative complications, 1 patient who had TLH and 2 patients who had TAH had postoperative fever. One case of TAH developed wound infection which was managed conservatively. One case of LH was later converted to TAH because of dense adhesions between posterior uterine surface and bowel. Clinical results of patients are shown on Table 1.

Post operative pain management was done either with a continuous

opioid infusion pump, or with a fixed hourly dose of parenteral non-steroidal anti-inflammatory drug and/or opioid. The number of patients requiring infusion pump following TAH was found to be 34.7% while following LH, it was only 8.2%. Hence, pain was significantly less with LH.

Discussion:

In the present study the mean surgical time taken for laparoscopic hysterectomy was longer when compared to abdominal hysterectomy (138.7±31.5 min versus 113.5±33.8 min), which was statistically significant ($p<0.001$). Similar finding was shown in the studies by Garry et al (6) and Michel et al.(7) stating that laparoscopic hysterectomy takes longer time. Likewise in a study by Loh et al (8), the mean duration of surgery was shown as 159 minute in TLH group and 98 minute in TAH group.

The mean hospital stay of patients in LH group was significantly shorter when compared to TAH group (3.1±0.9 days versus 6.92±1.1 days) which was statistically significant ($p<0.001$). This finding is comparable to study by Cracken et al (9) done among 135 patients, in which the hospital stay for laparoscopic hysterectomy was significantly shorter (6.1 days) than for abdominal hysterectomy (8.3 days). Similarly in another study by Frigerio et al (10) patients in group TAH had significantly shorter operating time but with longer hospital stay with the mean of 8.5 days in TAH group and 4 days in TLH group.

In present study, the average estimated blood loss was found to be more in TAH (78.5±6.8 ml) than LH (64.6±5.7 ml) and it was statistically significant ($P\text{ value}<0.001$).

In a lot of studies intraoperative and perioperative blood loss in laparoscopic hysterectomy was less than abdominal hysterectomy (11-14). Raju and Auld, Çelik et al., Seracchioli et al. and Ribeiro et al. found out no statistically significant difference about blood loss between TLH and TAH (15-18).

There was no significant difference in the incidence of major complications among the two groups of this study. Similar findings were seen in some other studies done in past. Olsson et al. couldn't find out statistically difference between complication rates of TLH and TAH in their study which compared 71 TLH and 72 TAH cases and also Çelik et al. couldn't find out statistically significant difference in their study which compared 47 TLH and 30 TAH cases (11,16). Our study was with a small sample size of 30 in each group. However, to compare the complications between two groups, a better sample size is required. Our study has shown a significant difference in the pain as determined by requirement for additional analgesia. This is similar to the results obtained in other study done by Gyr T, Ghezzi F et al. (19).

Conclusion:

LH is safe and reliable alternative to open surgery in the management of benign gynecological diseases, with the advantage of less intraoperative blood loss, fast recovery and short hospital stay and significantly less amount of pain. It is mandatory to obtain proper experience before performing laparoscopic hysterectomies independently. The selection of patients with LH should be performed only with respect to surgeon's experience in laparoscopic surgery.

Conflict of interest:

No conflicts of interest exist for these authors. No relevant financial relationship exists between the authors and procedures or products used in this manuscript.

Tables

Table.1 Clinical results of the patients

S.No.	Results	LH	TAH	p-value
1	Mean operation time	138.7±31.5 minutes	113.5±33.8 minutes	<0.001
2	Mean Hospitalization time	3.1±0.9 days	6.92 ± 1.1 days	<0.001
3	Average blood loss	64.6±5.7 ml	78.5±6.8 ml	<0.001
4	Blood transfusion	1	2	0.69
5	Conversion to laparotomy	1	NS	NS
6	Ureteric injury	0	0	NS
7	Bladder injury	0	0	NS
8	Bowel injury	0	0	NS
9	Post-operative fever	1	2	0.69
10	Wound infection	0	1	0.42

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