Laparoscopic Assisted Vaginal Hysterectomy

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Summary: This paper is a retrospective analysis of the first 70 LAVH's done by the authors between February 1995 and August 1997. The procedure was successfully completed in 97% cases. The average time taken for total operation was 110 minutes (range 70-180 min). The average time for the laparoscopic surgery was 40 minutes (range 25-60 minutes) The average post-operative hospital stay was 3.3 days (2-8 days). Major complications included bleeding, bowel burn, and vault hematoma. In two patients the laparoscopy was abandoned and laparotomy (TAH-BSO) performed due to a bleeding problem with an uneventful recovery. LAVH can replace many abdominal hysterectomies performed for benign disease. However, it is not a substitute for vaginal hysterectomy, and one should shift to the vaginal route as soon as possible.

Introduction :

Since the first case report of laparoscopic hysterectomy, no other operation in Minimally Invasive Surgery has generated the same degree of controversy and debate as the laparoscopic approach to hysterectomy. (Reich et al, 1989) Numerous articles have been published suggesting the benefit of laparoscopic hysterectomies over the abdominal route due to fewer complications, less blood loss, decreased hospital stay and quick recovery. (Liu, 1992, Reich et al, 1993). At the present time there is no evidence to suggest that laparoscopic hysterectomy carries any advantages at all over vaginal surgery. The laparoscopic approach should be used to permit a vaginal hysterectomy in the presence of major pelvic disease such as endometriosis, adhesions and adnexal masses or where there is restricted vaginal access or limited uterine descent. (Richardson et al, 1995) In clinical practice the majority of hysterectomies in such situations are carried out abdominally and few oopherectomies are carried out via the vaginal route. The central feature of the use of the laparoscope in removing the uterus is it enables open abdominal hysterectomy to be avoided. This paper reports the results from the first 70 LAVHs performed by the authors. The clinical indications, surgical details and complication profile are presented.

Subjects and Methods

Between February 1995 to August 1997, the authors performed seventy LAVHs at various private nursing homes in Mumbai, Jagjivan Ram Railway Hospital, (W-Rly) and Malhotra Nursing Home, Agra. Selection criteria are listed in Table I. The aim was to convert an abdominal hysterectomy to a safe vaginal hysterectomy. The indications for LAVH are shown in Table II. Only those cases where a Stage I procedure or greater was carried out were included (Johns et al, 1994).

Preoperative Evaluation/Preparation

Preoperative evaluation was as it would be done for major abdominal surgery. Bowel preparation included a liquid diet for two days preoperative with purgative on the night prior to surgery. The patient was advised to avoid milk and fizzy drinks. Bowel enema was avoided.

Operative Technique

After suitable general anaesthesia was administered, the patient was put in a low dorsolithotomy position with 10-20^0 Trendelenberg. It is important not to flex the hips; otherwise the thighs will limit the range of motion of instruments inserted through the lower abdominal trocars. A vertical 10 mm. Infraumbilical incision was made and 11 mm trocar was inserted by direct technique. 10 mm 0^0 telescope was inserted, entry in peritoneal cavity confirmed and insufflation with CO_2 commenced. After inspecting the anterior abdominal wall, two 5 mm trocars were inserted lateral to the obliterated umbilical ligament avoiding the inferior epigastric vessels. Uterus

Table I
Selection Criteria for LAVH

Inclusion

- A valid indication for removing the uterus & /or ovaries
- Vaginal Hysterectomy is not safe / possible
- Presence of adhesions, endometriosis, adnexal disease etc which would have otherwise required an abdominal approach

Exclusion

- Malignancy
- Uterine size is 14 weeks or greater

Table II
Indications for LAVH

	N	%
D U B	37	54
Adnexeal Mass	10	15
Fibroids	7	9
Endometriosis	5	7
C I N	5	7
Postmenopausal bleeding	4	5
Chronic Pain/Dysmenorrhoea	2	3
	70	

Table III
Concomitant Surgeries

Salpingo-oophorectomy	38
Adhesiolysis	11
Endometriotic cyst	4
A P repair	9
Appendectomy	2

Table IV
Complications

Bleeding	7
Laparotomy/Abd Hyst.	2
Minilap	1
Bipolar Fulguration	4
Bowel Burn	1
Vault Hematoma	1

was manipulatd using a Wadia / Purandare's elevator After a preliminary visual examination, any adhesions were divided. LAVH was performed using bipolar desiccation. When salpingooophorectomy was to be performed, the infundibulopelvic ligament was grasp close to the ovary and pulled medially (so as to av injury to the ureter) and bipolar desiccation performed using Kleppinger forceps. The cauterized area was cut with sharp scissors.

When ovarian conservation was required, the utero ovarian ligament and fallopian tubes were cauterized and cut. Dissection was taken to the point of opening the broad ligament The uterovesical fold of peritoneum was incised using scissors and / or monopolar needle and bladder pushed down. No attempt was made to ligate/ desiccate the uterine arteries laparoscopically The operation was completed by the vaginal route, using a standard technique. On completion the pneumoperitoneum was re-established and a laparoscopic inspection of the pelvis carried out. Any bleeding points were cauterized. Irrigation and aspiration was used as required. The trocars were removed under vision and absence of bleeding from the ports confirmed. A vaginal pack and indwelling catheter were inserted and removed the following morning. In selected cases an additional Foley's catheter was inserted into the peritoneal cavity through the vault and retained for 24 36 hrs.

Results

The procedure was successfully completed in 68/70 (97%) cases. During the early days two cases had to be abandoned and abdominal hysterectomy performed due to a bleeding problem The recovery in both these was uneventful. The mean age of the patients was 41 (23 58 years.) Of the women, 5 were nulliparous, 6,30,29 patients were para 1, 2 and 3 or greater respectively The primary indication for surgery is shown in Table II. Concomitant surgeries performed together with the LAVH are shown in Table III. The average time taken for the total ope was 110 minutes (range 70 – 180 min). The average time for the laparoscopic surgery was 40 minutes (range 25-60 minutes). The average postoperative hospital stay was 3.3 days (range 2- 8 days) Most patients who stayed

more than 4 days did so for social reasons. The complications are shown in Table IV. Major complications included bleeding (5/70), bowel burn and vault hematoma. Bleeding was managed laparoscopically - bipolar fulguration or clips and blood transfusion. In one case a minilap was performed to ligate a vessel at the vaginal angle. The vault hematoma was managed conservatively with antibiotics and blood transfusions. She was readmitted after 8 days for drainage of the hematoma vaginally under general anaesthesia. Subsequent recovery was uneventful. The transfusion rate was 4/70 (6%). The case of bowel burn was due to a faulty cautery and was managed by laparotomy and suturing of bowel. There were no bladder or ureteric injuries in the series.

Discussion

Hysterectomy is one of the most commonly performed surgical procedures in gynecology. Approximately one third of the hysterectomies are performed vaginally, and the remainder are performed abdominally. (Dicker et al 1982). Vaginal hysterectomy is the optimal choice because of its reduced costs, lower complication rates, and avoidance of a major abdominal incision. Recently, LAVH has been added to the gynecologist's armamentarium. Laparoscopic assisted vaginal hysterectomy is especially useful in the following circumstances

1) **To remove the ovaries :** In clinical practice few oopherectomies are carried out via the vaginal route since it is generally considered more difficult than via the abdominal route (Wilcox et al, 1994). Oopherectomy cannot be guaranteed at the time of vaginal hysterectomy even by those who promote the technique (Sheth, 1991). Laparoscopic approach can be employed where oopherectomy is not possible by Vaginal approach alone

Evaluate an adnexal mass : A preliminary laparoscopy helps to determine the etiology of the mass. It can facilitate the removal of ovary, tube, or adnexa if indicated, and allows the surgeon to complete the procedure vaginally.

3) **To evaluate the pelvis in patients with a history of PID, Endometriosis, or known adhesions :** Suspected pathologies are confirmed at laparoscopy in only 50% cases. If pelvis is normal, a vaginal hysterectomy can be safely accomplished, avoiding an unnecessary laparotomy. If pathology is confirmed, it can be corrected laparoscopically and vaginal hysterectomy performed

The true complication rate resulting from an LAVH is currently unknown and, like any type of surgery, it is dependent on the experience of the surgeon. One previous study cited the complication rates associated with the abdominal, LAVH, and vaginal hysterectomy to be 26%, 12% and 6% (Bioke et al, 1993). It is inappropriate to compare the complication rates for different types of hysterectomies, but it is encouraging that the complication rate resulting from LAVH is not out of range

To conclude :

- LAVH can replace many abdominal Hysterectomies for benign disease.
- It is not a substitute for Vaginal Hysterectomy, and one should shift to Vaginal route as soon as possible

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