Laparoscopic assisted vaginal hysterectomy: An evaluation of 20 cases

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Summary: The option of laparoscopic assisted vaginal hysterectomy (LAVH) was offered to all patients awaiting abdominal hysterectomy for benign disorders of uterus. The complications during peri- and post-operative period and the ultimate outcome were studied in 20 such patients who underwent LAVH. Laparoscopic dissection was limited to the level of uterine vessels. The vaginal procedure was carried out in the usual manner. 18 patients had fibroid of 10 to 14 weeks size and 2 patients, tubo-ovarian mass with menorrhagia. Bilateral salpingo-oophorectomy was performed in 4 patients. Mean operating time was 100 minutes. Mean blood loss was 350 ml and none of the patients received blood transfusion. Despite prophylactic antibiotics, one patient developed vault sepsis. Mean hospital stay was five days including the day of surgery. Patients at follow up after six weeks were all well enough to perform their previous activities.

Introduction:

Since first published in the literature by Reich et al in 1989, laparoscopic hysterectomy (LH) has now gained popularity throughout the world and become an accepted method of removing the uterus. However, LH includes a spectrum of procedures. Different levels, stages or types of LH have been suggested by various authors, depending on how much is done laparoscopically (Johns & Diamond 1994, Garry et al 1994, Munro & Parker 1993). The term laparoscopic assisted vaginal hysterectomy (LAVH) is used when vaginal hysterectomy is facilitated by laparoscopic dissection till a level where surgeon feels vaginal procedure can be performed safely. The objective of this paper is to evaluate the clinical results of this relatively new procedure in those patients who opted for the procedure in lieu of abdominal hysterectomy.

Material and methods:

Between September 1995 and December 1996, all patients admitted in our institution with benign disorders of uterus awaiting abdominal hysterectomy were offered the option of LAVH. An informed consent was taken with an emphasis on the possibility of conversion to abdominal hysterectomy any time during the surgery.

Surgical Technique:

At the beginning of the laparoscopic procedure, a thorough inspection of the pelvis and abdomen was done. Only electro-surgical diathermy, both mono and bipolar were used for dissection, dessication and haemostasis. Careful attention was given to ureters, but they were not dissected out. After the division of the round ligaments and upper portion of the broad ligaments just above the uterine vessels, an assessment was made whether ligation of uterine vessels was necessary. Accordingly the uterine vessels were either transected with bipolar forceps and scissors or the procedure was continued vaginally. The vaginal component was performed by modified Heaney's technique. Once the uterus was freed from its supports, it was removed vaginally intact or in pieces by morcellation. The vault was closed vaginally after assuring complete haemostasis. The time of surgery, from the introduction of Verress needle to the time of vaginal vault closure was recorded. Blood loss was estimated by the quantity in the suction bottle and subjectively by the number of swabs and gauze pieces soaked. All the difficulties encountered during the surgery were noted. All the patients were given routinely antibiotics for five days. Post operative requirement of analgesics and any morbidity were also recorded. All the patients were discharged from the hospital when they could move about and eat without discomfort. Six weeks after the surgery, all the patients were examined and enquired if they were happy about the procedure they had undergone.

Results:

20 patients awaiting abdominal hysterectomy opted for LAVH. The patient characteristics, indications for hysterectomy and size of the uterus were shown in table I. Hysterectomy was decided for fibroid uterus in 18 patients whereas in 2 patients the indication was menorrhagia with adnexal mass which turned out to be tubo-ovarian mass on laparoscopy. Transection of uterine

Table I.
Patient characteristics (n=20)

Age in years – mean (range):	42 (39 – 45)
Parity – mean (range):	3 (2 – 4)
Previous laparotomy patients:	2
Uterine size in weeks – mean (range):	12 (10 – 14)
Fibroid uterus:	18
Menorrhagia with adnexal mass:	2

Table II.
Stage of laparoscopic dissection (Johns and Diamond classification)

Stage	No of patients
0 – 1	0
2	18
3-4	2
BSO	4

vessels was done only in 2 patients and bilateral salpingo-oophorectomy was performed in 4 patients (Table II). The remaining patients had laparoscopic dissection till just above the uterines. As depicted in table III, there were no major complications though 3 patients had fever which subsided in 72 hours. Only one patient continued to have foul smelling vaginal discharge and was found to have vault sepsis which responded to antibiotics. The blood loss was 350 ml but none of the patients required blood transfusion. The requirement of analgesics during the first 48 hours was not different from the ones used in other open major surgeries. But none of the patients except the one who had vault sepsis asked for analgesics thereafter. The operating time gradually decreased to a minimum of 70 minutes as the surgeons became more experienced. The average hospital stay was 5 days including the day of surgery. At 6 weeks follow up all the patients expressed their satisfaction about the procedure they had undergone.

Discussion:

Since vaginal hysterectomy has many advantages and benefits over abdominal hysterectomy, the aim of LAVH is to convert abdominal to vaginal hysterectomy through assistance by laparoscopic dissection. In the present study, the uterine sizes were between 10 to 14 weeks and without laparoscopic assistance, all the patients would have undergone abdominal hysterectomy (AH).

Table III.
Intra and Post-operative observations

Operating time in min:	100 (75 – 120)
Blood loss in ml:	350 (150-500)
Hospital stay in days:	5 (4 – 7)
Patients with pyrexia:	3
Infections:	1 (Vault sepsis)
Major complications:	Nil

The major advantages of LAVH as demonstrated in the present evaluation were less operative bleeding, reduced post-operative period of nil by mouth, shorter hospital stay and patient's satisfaction about the absence of scar. Our results are consistent with the experience of other investigators. However, consideration of its safety is of utmost importance before accepting the procedure. During review of literature from 1991 to 1995, various observational studies of LH involving 2661 patients reported a complication rate of 11.7%, more than 2/3rds of which were minor (Munro & Deprest, 1995). These rates are much below the complication rate of AH (25 to 50%) as reported by Bachmann in 1990. Comparative studies have also shown 8% complication rate in LH group as against 8.7% in AH group (Munro & Deprest, 1995). In our series of 20 cases of LAVH we did not encounter any major complication. The minor complications we had were pyrexia and vault sepsis which responded to antibiotics and did not hamper the complete recovery. There are certain disadvantages, such as prolonged operating time, necessity of expertise and apparent higher cost. But as the learning curve is attained, the operation time gradually declines. This has been shown in BELCOHYST study (Deprest et al, 1994) where the operating time decreased from more than 3 hours to less than 90 minutes after the surgical team had done 40 procedures. Consistent finding could be seen in our series also. The operating time gradually decreased and the average of 100 minutes is very well acceptable. This finding is despite the fact that we have used only the electro-surgical diathermy for dessication and haemostasis. Nezhat et al 1992, Phipps et al 1993, Raju et al 1994 reported significantly shorter operation time using endo-staplers. But this would certainly add to the cost of surgery. The extra operating time of LAVH is well compensated by shortened hospital stay of at least 2 days, post-operative comfort, avoidance of prolonged intravenous fluids and drugs, early resumption of oral route, etc. In addition, a significant benefit of LAVH is

the gain in productivity work by at least two weeks arising out of the early return to work. This has far reaching consequences in the present time with the changing role of women. Thus avoidance of abdominal route in hysterectomy by LAVH is safe along with additional advantages of a vaginal surgery.

References:

1. Bachmann GA. J Reprod Med. 35: 839, 1990
2. Deprest J, Cusumano P, Donnez J. Int J Gynecol Obstet. 46: S9 (Abstract), 1994
3. Garry R, Reich H, Liu CY. Gynaecol Endoscopy. 3: 1, 1994
4. Johns DA, Diamond MP. J Reprod Med. 39: 424: 1994
5. Munro MG, Deprest J. Clinical Obstetrics and Gynecology, 38 (2): 401, 1995
6. Munro MG, Parker WH. Obstet Gynecol. 82: 624, 1993
7. Nezhat F, Nezhat C, Gordon S, Wilkins E. J Repro Med. 37: 247, 1992
8. Phipps JH, John M, Nayak S. Br J Obst Gynaecol. 100: 698, 1993
9. Raju KS, Auld BJ. J Am Ass Gynecol Laparos. 1: 111, 1994
10. Reich H, Decaprio J, McGlynn F. J Gynecol Surg. 5: 213, 1989