

Laparoscopically Assisted Vaginal Hysterectomy: Analysis of 35 Consecutive Cases

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OBJECTIVE: The aim of this study was to evaluate indications, effectiveness and safety of laparoscopically assisted vaginal hysterectomy for benign adnexal or uterine pathologies.

STUDY DESIGN: We reviewed the records of 35 consecutive women who underwent laparoscopically assisted vaginal hysterectomy for benign reasons between January 2002 and December 2004. All the patients were not suitable candidates for abdominal or vaginal hysterectomy either because of concomitant adnexal masses or lack of uterine prolapse. The exclusion criteria included prolapse, uterine or adnexal neoplasm, pelvic inflammation, vaginal stenosis and any pathology with a uterine size of more than 14 weeks.

RESULTS: Indications for laparoscopically assisted vaginal hysterectomy were leiomyoma uteri (45.7%), intractable uterine bleeding (17.1%), myoma uteri with adnexal masses (14.3%), postmenopausal (8.6%) or bilateral (8.6%) adnexal masses and tamoxifen related endometrial pathology (5.7%). Mean operating time was 149.31 minutes (range 90-210) and the mean postoperative hospital stay was 2.4 days (range 2-10). Only one bladder laceration occurred during the operations which required conversion to laparotomy (2.8%).

CONCLUSION: Laparoscopically assisted vaginal hysterectomy was found as a feasible and safe approach in the surgical management of a selected group of patients with benign pathologies.

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Key Words: Laparoscopically assisted vaginal hysterectomy, Safety, Uterine and adnexal pathology

Hysterectomy is one of the major procedures in the surgical management of women with various pathologies. A revolution in the surgical approach to hysterectomy commenced with the first report of laparoscopically-assisted vaginal hysterectomy (LAVH) by Reich et al. in 1989.¹ Prior to the introduction of LAVH in the United States, approximately 75% of hysterectomies were performed abdominally, with the remaining being vaginal.² During the past decade, with the potential benefits of LAVH, the percentage of hysterectomies performed with LAVH has increased. Flystra and Carter reported that they had witnessed an increase in the use of LAVH with a resultant decrease in the rate of abdominal hysterectomies (32% vs. 39%) and with an increasing experience in vaginal route.³ Numerous articles have been written for highlighting the complications relating to LAVH and comparing those with complications in both abdominal and vaginal hysterectomy. In the present study, we attempted to explore the indications, effectiveness and safety of LAVH for benign adnexal or uterine pathologies.

Materials and Methods

A total of 35 consecutive women who underwent LAVH from January 2002 to December 2004 were included in this

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retrospective study. Data were analyzed from the practice records of the division of Endoscopic Surgery at the institution. Study group consisted of patients who were not suitable candidates for abdominal or vaginal hysterectomy either because of concomitant adnexal masses or lack of uterine prolapse. The exclusion criteria included prolapse, uterine or adnexal neoplasm, pelvic inflammation, vaginal stenosis and, any pathology with a uterine size of more than 14 weeks. All patients were analyzed with respect to demographic characteristics, indications for LAVH, operating time, Δ hemoglobin levels (preoperative hemoglobin–postoperative hemoglobin), intraoperative and postoperative complications. The analysis was performed to determine the current indications of LAVH and to assess the relative frequencies of techniques and complications.

Results

Median age was 46.1 years (range 37-63). LAVH was performed with bilateral salpingo-oophorectomy (BSO) in 24 (68.5%), unilateral salpingo-oophorectomy (USO) in 9 (25.7%) and without adnexectomy in 2 (5.8%) patients. Indications for LAVH were leiomyoma uteri (45.7%), intractable uterine bleeding (17.1%), leiomyoma uteri with adnexal masses (14.3%), postmenopausal (8.6%) or bilateral adnexal masses (8.6%), and tamoxifen related endometrial pathology (5.7%) (Table 1). Mean operating time was 149.31 minutes (range 90-210) and the mean Δ hemoglobin was 1.6 gr/dL (range 0.2-6.5). Only one bladder laceration was encountered during the operations which required conversion to laparotomy (2.8%). Early postoperative course of the remaining 34 patients were uneventful without any complication and the mean postoperative hospital stay was 2.4 days.

Table 1. Preoperative and postoperative clinical data of the study group

	Study group (n=35)
Age*	46.1 (37-63)
Indications for surgery †	
Uterine leiomyoma	16 (45.7)
Intractable uterine bleeding	6 (17.1)
Leiomyoma+adnexal mass	5 (14.3)
Bilateral adnexal masses	3 (8.6)
Postmenopausal adnexal mass	3 (8.6)
TMX related endometrial lesion	2 (5.7)
Mean operating time*	149.31 (90-210)
Postoperative hospital stay*	2.4 (2-10)
Intraoperative and postoperative complications†	1 (2.8)

* Presented as mean and range

† Presented as number and percent

Discussion

Abdominal hysterectomy is the common route of surgical access for benign gynecologic pathologies. Many gynecologic surgeons, who preferred the abdominal route, believe it to be a safer and easier procedure. However, with the increased expertise that has been achieved by the gynecologist and the better compliance that has been reported by the patients have increased the number of vaginal hysterectomies. In recent years, several authors combined vaginal hysterectomy with laparoscopic assistance.¹⁻³ LAVH offers patients the option of shorter hospital stay, decreased postoperative discomfort and the possibility of converting the operation to the abdominal route at any moment if required.

Laparoscopic surgery still has associated morbidity and there is a wide range of complication rates reported in the literature. Harkki-Siren and Kurki reported a major complication rate of 10.1 per 1000 operative laparoscopies and 75% of major ureteral or intestinal injuries occurred at the time LAVH.⁴ Querleu and See et al. concluded that laparoscopic complications were often related to the inexperience of the endoscopic surgeon.^{5,6} Chapron et al. examined seven French centers for laparoscopic gynecologic surgery and reported that, when physician's experience with laparoscopy increased, there was a statistically significant decrease either in the rate of complications or in the rate of conversion to laparotomy.⁷ French group with a series of 29,966 cases concluded that safety was high in experienced hands. In contrast, Jansen et al. actually reported that greater laparoscopic experience of the surgeon was associated with increased odds of encountering a complication requiring a laparotomy.⁸ In the present series, limiting the LAVH to a level of uterine arteries in 21 of 22 cases, no complication occurred. Using Johns and Diamond LAVH staging system, a level V was undertaken in a patient in whom a bladder laceration occurred.⁹ As the stage for LAVH increased, there was a 4.5% ra-

te of conversion to laparotomy and surgical complication rate in our experience.

Fibroids were the leading reason for LAVH, responsible for 59% of the procedure performed in the present series. Other specific indications were in decreasing order and our experience reflects that of many series in the literature. LAVH can be preferred for benign uterine or adnexal disease, fibroids, adenomyosis or endometriosis could include several advantages for the patients. However, Darai et al. compared two groups of patients who underwent vaginal hysterectomy or LAVH for these indications and showed that LAVH offered no advantages over standard vaginal hysterectomy.¹⁰

Although abdominal hysterectomy is the preferred route for more serious pathologic conditions, it has been reported that this route is performed frequently for less serious diseases for which LAVH is clearly appropriate. No formal guidelines have been adopted to assist physicians in selecting the most clinically appropriate route of hysterectomy. In a recent series with 3,728 LAVHs with similar indications, Visco et al. reported that the median number of LAVHs performed by each attending physician was 2 and overall, there was a 12.1% surgical complication rate, a 21.5% rate of conversion to laparotomy and one reported death.¹¹ Kovac et al. suggested practice guidelines to reduce the ratio of abdominal to vaginal hysterectomy from 3:1 to 1:11.¹² The authors suggested that a laparoscopic scoring system should be used to document and record the severity of extrauterine pathologic condition in all women in whom LAVH is required. In the Kovac's series with 407 hysterectomies, the rate of LAVH was 25.8% by using those guidelines.

In conclusion, the present series report the complication rate and the rate of conversion to laparotomy with LAVH during a time period when most surgeons were climbing the learning curve. During the study period, LAVH was found as a feasible and safe approach in the surgical management of a selected group of patients with benign pathologies.

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