

GYNAECOLOGY

20 cases of laparoscopic assisted vaginal hysterectomies

Anurach Kulwanitchaiyanunt MD.

Department of Obstetrics and Gynaecology, Ranong Hospital, Muang, Ranong 85000, Thailand

ABSTRACT

Laparoscopic-assisted vaginal hysterectomies appear to have significant benefits for patients in terms of hospitalization and recovery. However, this new technique is not widely practiced since many doctors are inadequately trained for it, and its costs to the patient are about double those of more traditional techniques. This article describes experiences in performing laparoscopic-assisted vaginal hysterectomies on 20 patients over a 5-year period (1996-2000). The surgical procedures, outcomes, advantages and disadvantages, safety, and complications of the technique will be discussed. It is anticipated that these experiences can be used as a qualitative measure for further improvement.

Key words : Laparoscopic-assisted vaginal hysterectomy (LAVH)
Total abdominal hysterectomy (TAH)

The laparoscopic-assisted vaginal hysterectomy (LAVH), a relatively new surgical technique, is an alternative to total abdominal hysterectomy (TAH)⁽¹⁻⁴⁾. It has not however been widely practiced in hospitals because of lack of training for doctors performing the operation. LAVH is not included in the regular resident training program. In fact, only the Thai Society of Gynecologic Endoscopists provides LAVH training as the sole technique for hysterectomies. The author had been intensively trained in Siriraj Hospital for months before being able to perform LAVH skillfully.

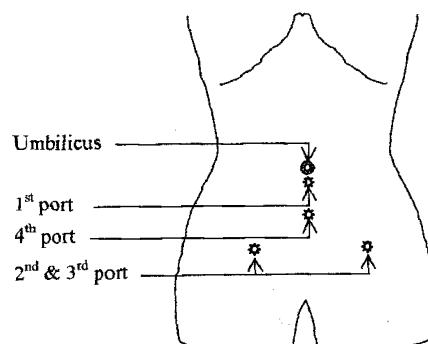
Patients and methods

The patient preparations prior to performing an LAVH include taking the patient's history, doing a physical examination, and explaining the complete laboratory diagnosis leading to the recommendation of the procedure. The doctor also must explain the risks of the surgery, potential side effects of anesthesia, and

other associated diseases that could affect the outcome, such as an obstructed bowel, and/or a large tumor.⁵ It is also necessary for patients themselves to acknowledge the advantages and disadvantages of LAVH and to be made aware of a possible switch to a TAH if a failure of the LAVH procedure should occur.

Surgical Procedures

To perform LAVH, four ancillary portals are made as depicted in Figure A.⁽⁵⁾



- The 1st portal is made 10 mm. beneath umbilicus for a camera.
- The 2nd and 3rd portals are made 5 mm. on each side of lower quadrant of anterior abdominal wall. Then, insert each trocar into the middle of safety triangle, located between medial umbilical ligament and lateral umbilical ligament. Be cautious for cutting epigastric vessel otherwise haematoma would occur in abdominal wall. When making these portals, turning off the lights and using the light from the camera on laparoscope beneath umbilicus instead. Using a hand to cover the shadow front of abdominal wall in order to see vessels clearly.
- The 4th portal was made between umbilicus and symphysis pubis.

Before inserting a trocar, blow carbon dioxide to the intra abdomen. Making 45° with the front wall of the abdomen, insert verres into the abdomen. Hold abdomen skin with the left hand upward to anterior rectus sheath and push the verres in with the right hand. To ensure the existence of the verres in the abdomen is either by the completed drain of saline when it is injected into verres and saline cannot be withdrawn or by the loss of liver dullness beneath right costal margin when gas is blown into the abdomen more than 1 liter. After pumping gas 2-3 liters into abdomen with not higher 15 mm.Hg. pressure, insert the trocar beneath umbilical incision by holding the end of trocar with the right hand in 45° angle. Twist the hand when trocar passes peritoneum. The pressure in abdomen will decrease instantly. Then, push trocar down a little bit before taking it off and leave just the sleeve. If open the sleeve valve, will hear the leak of air.

In the operation, use bipolar coagulation to clip both round ligaments and use unipolar scissors to make a window. If would like to keep ovaries, clip utero ovarian ligament and vessels, fallopian tubes, and broad ligament to order to shut vessels. Then, use unipolar scissors to cut it out and stop bleeding electronically. In order to minimize the operation costs to patients, the surgeon did not use automatic stapling device in these 20 surgeries. Next, use bipolar clip

both of uterine vessels and trim bladder flap with unipolar coagulation scissor from anterior vaginal wall around utero-vesicle peritoneum. In this step, be cautious not to injure bladder.

After trimming anterior from posterior of broad ligament, let an assistant use ring forceps to insert wet sponge, made from 3-4 pieces of 4x4 inchs gauzes into vagina. Push it upward to anterior fornix till see a fold position of anterior fornix clearly from the monitor. This also distances bladder flap from vaginal wall. Ensure hands holding wet sponge stay still when make a clip. Use bipolar tip clip the front of vaginal vault horizontally till see the wet sponge in abdomen. In this step, should not use unipolar because electrical signal may injure the bladder.

Then, use bipolar tip clip both utero-sacral ligament and posterior fornix of vaginal vault, located between the end of utero-sacral ligaments and next to uterus. While cutting posterior colpotomy, let an assistant use wet sponge forceps push posterior fornix upward in order to see the fold position of posterior fornix. Do watch out ureter positions on both sides.

Lastly, in vaginal hysterectomy, cut cardinal ligament and uterine vessels, and suture vagina together. When suturing vagina, be aware not to make too deep from the edge because it could injure both bladder and rectum. Use laparoscope in abdomen to check any wound, stop bleeding, and clean it with saline in the mix of heparin 5000 u : saline 1000 cc. Fill in 300-400 cc. of saline, pull trocar out,⁽⁶⁾ and suture the anterior rectus sheath in order to protect hernia in 10 mm. portal.

Results

The 20 vaginal hysterectomies in this study were carried out during 1996 to 2000 for patients of the average age of 43.6 years (range 37-51 years). None of the procedures had to be abandoned in favor of TAH. Sixteen were the result of Myoma uteris, two were cases of ovarian cyst, and another two had DUB. There was only one complication of a vesico-vaginal fistula, which was repaired six weeks later.

The mean operating time was improved from

225, 182, and 176 minutes for hysterectomies in 1996-1998, 1999, and 2000, respectively, as the surgeon became more skillful. The mean hospitalization was 2-3 days; patients took few analgesics and recovered within a week. An average operating cost was 11,100 Baht.

Discussion

The LAVH requires an operation time about 90-120 minutes longer than the TAH^(3,4,7-9) and costs a patient double because of it requiring both special equipment and a skilled, specially trained surgeon. Intraoperative complications of laparoscopic surgery, bowel injury, vascular injury, subcutaneous emphysema, hemorrhage, they can occur from inserting of verres needle and trocar. The urinary bladder injury is one of the most complications associated with laparoscopically assisted vaginal hysterectomy.⁽¹⁰⁾ Early detection and treatment enable complication to be overcome easily. In this case complication is vesico-vaginal fistula which was detected first day post operation. Bladder injury in this case is usually caused by unipolar electrosurgery. The mounted sponge forceps is placed to anterior fornix and bulging area of the uterovesical space is depended on skilled assistant. If the mounted sponge forceps is not placed in the midline and not strong enough, the bladder is not retracted or pushed away from the area of dissection. When the anterior fornix is opened by unipolar electrosurgery, the bladder injury may be occurred. Vesico-vaginal fistula in this case was repaired by urologist.

However, the LAVH results shortened hospitalization and earlier recovery time.^(3,4,7-9,11-12) The patient receive less analgesic and smaller incision than TAH. With such significant benefits, the LAVH should be continually developed as an effective alternative to TAH for future practice.^(2,3,8,13,14) But LAVH should never be carried out instead of vaginal hysterectomy, since vaginal hysterectomy is the best procedure when it is easy to perform.⁽¹⁵⁾

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