



CLINICAL ARTICLE

Transvaginal laparoscopic surgery for ovarian cysts

Jaeman Bae, Sun-Joo Lee, Soo-Nyung Kim*

Department of Obstetrics and Gynecology, School of Medicine, Konkuk University, Seoul, Korea

ARTICLE INFO

Article history:

Received 8 July 2011

Received in revised form 7 November 2011

Accepted 20 December 2011

Keywords:

Minimally invasive surgery

Ovarian cyst

Transvaginal endoscopy

Transvaginal laparoscopy

ABSTRACT

Objective: To evaluate the effectiveness and feasibility of transvaginal laparoscopic surgery (TLS) using endoscopic instruments for management of ovarian cysts. **Methods:** In a retrospective study, data from 140 patients with benign ovarian cysts who underwent TLS at Konkuk University Hospital between June 2007 and December 2008 were evaluated. The preoperative characteristics of patients, operative time, blood loss, complications, and postoperative outcomes were evaluated. **Results:** The mean age of patients was 38 years (range, 16–82 years). TLS was accomplished in 136 women (97.1%). The more common pathology findings included 35 dermoid cysts, 28 endometriotic cysts, 23 mucinous cysts, 21 serous cysts, and 13 functional ovarian cysts. The median operative time was 35 minutes (range 15–110 minutes). The maximum diameter of the ovarian cysts ranged from 3 to 20 cm (mean 6 cm). The median estimated blood loss was 38 mL (range 10–80 mL). No patients received a blood transfusion. All of the patients were discharged within 24 hours of surgery. No major complications occurred. **Conclusion:** Transvaginal laparoscopic surgery was found to be a feasible and cosmetically beneficial surgical technique for managing selected patients with benign ovarian cysts.

© 2012 International Federation of Gynecology and Obstetrics. Published by Elsevier Ireland Ltd. All rights reserved.

1. Introduction

For more than 100 years, transvaginal endoscopy has been performed for diagnosis or surgery. In 1902, Dmitri von Ott first described ventroscopy through colpotomy at the Gynecology and Obstetrical Society of Saint Petersburg [1]. During the 1960s, culdoscopy developed as a diagnostic and therapeutic procedure. In the 1970s, however, culdoscopy was criticized for its limitations of surgery and the lack of visualization [2].

With the advances in endoscopic technology, laparoscopic surgery has become the standard treatment modality for benign diseases. However, CO₂ pneumoperitoneum is a risk factor for drying and acidosis of tissues, and gas embolism; it causes aerosolization and spread of tumor cells; and it may favor the formation of adhesions [3,4].

In recent years, the development of minimally invasive surgical techniques and natural orifice transluminal endoscopic surgery (NOTES) has resulted in a resurgence of interest in transvaginal endoscopy. NOTES is the newest technique emerging in the field of minimally invasive surgery. Vaginal routes are the one of most promising routes for NOTES [5].

Vaginal oophorectomy was performed in patients with breast cancer in 1989, and ovarian dermoids were removed freely and

comfortably via the vaginal route without laparoscopy or laparotomy in 2001 [6,7]. Laparoscopic cholecystectomy has been performed via the vaginal route without abdominal access [8]. Transvaginal NOTES eliminates the need for abdominal incisions and abdominal wound complications. Indeed, transvaginal NOTES might be superior to laparoscopic surgery in reducing abdominal wall pain and hernia formation. Moreover, the lack of abdominal scars makes this technique cosmetically superior to laparoscopy. Despite its merits, however, the vaginal approach is still not commonly used. The difficulty of access makes surgeons unwilling to perform transvaginal ovarian surgery.

At the Konkuk University Hospital, Seoul, Korea, ovarian surgery has been carried out via transvaginal endoscopy. The aim of the present study was to evaluate retrospectively the effectiveness and feasibility of transvaginal laparoscopic surgery (TLS) using endoscopic instruments for surgical management of ovarian cysts.

2. Materials and methods

In a retrospective study carried out at Konkuk University Hospital, Seoul, Korea, data from 140 patients with benign ovarian cysts who underwent TLS between June 1, 2007, and December 30, 2008, were evaluated. The study was approved by the Konkuk University Hospital Institutional Review Board.

All of the operations were performed (by S-N.K.) applying similar techniques. Patients were fully informed about the transvaginal endoscopic surgery and gave consent. If mandated, the treatment could be converted to laparoscopic surgery or laparotomy.

* Corresponding author at: Department of Obstetrics and Gynecology, School of Medicine, Konkuk University, 1 Hwayang-dong, Gwangjin-gu, Seoul 143–701, Korea. Tel.: +82 2 2030 7641; fax: +82 2 2030 7748.

E-mail address: snkim@chol.com (S.-N. Kim).

For all women presenting with ovarian cysts, a pelvic examination was performed to confirm the absence of nodularity in the cul-de-sac and to check for other findings that might indicate malignancy. The presence of a fixed uterus or strong pelvic adhesions was evaluated and, if present, those patients were excluded from the protocol. The presence of large uteri or myomas was considered a relative contraindication to TLS, and affected patients were excluded from the protocol.

All of the patients had preoperative transvaginal ultrasound with or without computed tomography (CT) and serum CA-125 assessment. The inclusion criteria for TLS included non-pregnancy, absence of radiologic and laboratory features suggestive of malignant disease, and normal or elevated CA-125 values if the ovarian cysts had features consistent with endometriotic cysts. The criteria for radiologic features of benign disease included single unilocular cysts, cysts containing thin septa, and cysts containing a solid area if they had features consistent with a dermoid cyst. Women with acute conditions, such as acute pelvic inflammatory disease and hemoperitoneum, were not offered TLS.

The preoperative characteristics of patients, outcomes of TLS, operative time, blood loss, complications, and postoperative outcomes were examined. Patient charts, surgery records, pathologic reports, and anesthesia records were evaluated. Ovarian cyst size was determined by the maximum dimension on transvaginal ultrasound or CT. In cases of bilateral ovarian cysts, the sum of the cyst diameters was used.

To determine blood loss, the aspirator and gauzes absorbing blood were collected and weighed, and the weight of lost blood was estimated by subtracting the weight of intact gauzes from the total weight measured. Because the specific gravity of blood is equal to 1.0, the total weight of blood loss was represented as the total volume of blood loss.

All patients had an iodine-based scrub of the perineum and vagina preoperatively. The bladder was drained preoperatively by in-and-out catheterization under sterile conditions. Prophylactic antibiotics were administered to all patients preoperatively. Prophylactic oral antibiotics were not administered postoperatively.

Transvaginal surgery was carried out with the patient under general or regional anesthesia in the lithotomy position. Examination under anesthesia and vaginal ultrasonography were performed just before TLS. The cervix was first exposed by means of a Colin speculum to expose the posterior cul-de-sac. Access to the pouch of Douglas was obtained by using a needle-trocar puncture technique to the posterior fornix [9]. The point of entry was located 5–10 mm behind the cervicovaginal junction in the midline of the posterior vaginal fornix between the uterosacral ligaments. For this purpose, a special access needle-trocar (Karl Storz, Tuttlingen, Germany) was used to enable entrance to the pouch of Douglas with a simple needle and consecutively dilate the site of entrance up to the diameter of the outer trocar. After the dilator and Veress needle were removed, a 2.9-mm endoscope with a 30-degree angled optical lens was inserted through the sheath (Fig. 1). The posterior surface of the uterus was examined first, followed by the ovaries and the fallopian tubes (Fig. 2). During the procedure, a continuous flow of pre-warmed Ringer lactate solution was instilled.

After removal of the transvaginal endoscopic cannula, the puncture site was enlarged by introducing a long straight clamp and spreading the distal ends. The size of the opening (2–3 cm) was adequate to perform the procedures. After colpotomy, the ovarian cyst wall was brought into the vaginal vault through the colpotomy opening by grasping the ovary under direct endoscopic vision with the endometrial tenaculum forceps (Karl Storz, Tuttlingen, Germany). The ovarian cyst was stabilized transvaginally with an endometrial tenaculum forceps. The contents of the cyst were then aspirated with a needle or a 10-mm laparoscopic trocar to reduce the volume and permit exteriorization. The ovary was exteriorized into the vagina, where a cystectomy or oophorectomy was performed in a manner



Fig. 1. Transvaginal laparoscopic surgery. A 2.9-mm endoscope with a 30-degree angled optical lens was inserted transvaginally.

similar to that used in a classical laparotomy procedure (Fig. 3). The posterior fornix opening was partially closed with a continuous polyglactin 910 2-0 suture, which incorporated the mucosa and peritoneum in each bite. The transvaginal endoscopy cannula was then re-inserted into the peritoneal cavity, and the pelvic cavity was inspected again by transvaginal endoscopy to ensure hemostasis (Fig. 4). After removal of the transvaginal endoscopy cannula, the opening was closed.

Postoperative fever was defined as a documented temperature of 38 °C or greater on 2 occasions, at least 6 hours apart postoperatively, excluding the first day after surgery. All patients were examined 2 and 6 weeks postoperatively. Subsequent follow-up visits were scheduled at 6 months and 1 year after surgery.

Continuous variables that were normally distributed, such as age, body mass index (BMI, calculated as bodyweight in kilograms divided by the square of height in meters), and weight, were presented as mean $\pm$ standard deviation (SD). Variables that were not normally distributed, such as operative time, length of stay, and blood loss, were presented as median (range). Blood loss was compared between failed and successful cases by the Mann-Whitney test using dBSTAT version 5 (dBSTAT, Seoul, Korea).



Fig. 2. Observation of the ovarian cyst. During transvaginal endoscopy, a cyst on the left ovary was observed.

Download English Version:

<https://daneshyari.com/en/article/3949310>

Download Persian Version:

<https://daneshyari.com/article/3949310>

[Daneshyari.com](https://daneshyari.com)