J Gynecol Oncol. 2019 Sep;30(5):e104
https://doi.org/10.3802/jgo.2019.30.e104
pISSN 2005-0380·eISSN 2005-0399

JOURNAL OF GYNECOLOGIC ONCOLOGY

Position Statement

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Minimally invasive surgery for radical hysterectomy in women with cervical cancer: Korean Society of Gynecologic Oncology, Korean Society of Obstetrics and Gynecology, and Korean Society of Gynecologic Endoscopy and Minimally Invasive Surgery position statement

OPEN ACCESS

Received: Jun 2, 2019
Accepted: Jun 6, 2019

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This statement asserts the official position of the Korean Society of Gynecologic Oncology, Korean Society of Obstetrics and Gynecology and Korean Society of Gynecologic Endoscopy and Minimally Invasive Surgery, and has no legal validity for clinical decisions.

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ABSTRACT

On the basis of emerging data and the current understanding of minimally invasive surgery (MIS) for radical hysterectomy (RH) in women with cervical cancer, the Korean Society of Gynecologic Oncology, Korean Society of Obstetrics and Gynecology, and Korean Society of Gynecologic Endoscopy and Minimally Invasive Surgery support the following recommendations:

- According to the recently published phase III Laparoscopic Approach to Cervical Cancer (LACC) trial—a prospective randomized clinical trial—disease-free survival and overall survival rates of MIS RH are significantly lower than those of open RH.

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Conflict of Interest
No potential conflict of interest relevant to this article was reported.

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- Gynecologic oncologists should be aware of the emerging data on MIS RH for early-stage cervical cancer.
- The results of the LACC trial, together with institutional data, should be discussed with patients before choosing MIS RH.
- MIS RH should be performed for optimal candidates according to the current practice guidelines by gynecologic oncologists who are skilled at performing MIS.

Keywords: Uterine Cervical Neoplasms; Hysterectomy; Minimally Invasive Surgical Procedures; Laparoscopy; Laparotomy

Cervical cancer is the 4th most commonly diagnosed cancer (6.6% of the total cases) and the 4th leading cause of cancer death (7.5% of the total cancer deaths) in women worldwide [1]. In Korea, cervical cancer is the 7th most common female malignancy, and 3,582 cases of cervical cancers were newly diagnosed in 2015 [2]. According to National Comprehensive Cancer Network guidelines, the following are considered as standard surgical treatments for early-stage cervical cancers: a modified radical hysterectomy with pelvic lymph node dissection (PLND) in International Federation of Gynecology and Obstetrics (2009; FIGO) stage IA1 with lympho-vascular space invasion (LVSI) and IA2, and a RH with PLND with/without para-aortic lymph node dissection in FIGO stage IB1 and IIA1 [3]. Previous iterations of the guidelines had indicated that RH could be performed either via open laparotomy or via minimally invasive surgery (MIS) with laparoscopic approaches (which can be robotically assisted) [3-5]. The Korean Society of Gynecologic Oncology also stated that laparoscopic or robotic RH can be performed in patients with stage IB-IIA cervical cancer in the 3rd edition of the practice guidelines for management of cervical cancer in 2016 [4].

A recently published prospective randomized trial demonstrated that MIS RH is associated with lower rates of disease-free survival (DFS) and overall survival (OS) than open RH is [6]. This phase III Laparoscopic Approach to Cervical Cancer (LACC) trial (Clinicaltrials.gov Identifier: NCT00614211) was designed for the definitive comparison of survival outcomes in patients with early-stage cervical cancer undergoing MIS RH and open RH. A total of 631 women with 2009 FIGO stage IA1 (with LVSI), IA2, and 1B1 cervical cancer were enrolled during the 2008–2017 period. Among them, 319 and 312 patients were randomly assigned to MIS RH group and open RH group, respectively. Median follow-up period was 2.5 (range, 0–6.3) years. The DFS rate after 4.5 years was 97.6% (95% confidence interval [CI]=94.1–99.0) in the open RH group and 87.1% (95% CI=81.0–91.3) in the MIS RH group (per-protocol population; p=0.88 for non-inferiority). In patients treated with MIS RH, worse DFS (hazard ratio [HR]=3.74; 95% CI=1.63–8.58; p=0.002) and OS (HR=6.0; 95% CI=1.77–20.3, p=0.04) rates were observed after 3 years.

The findings of this LACC trial are consistent with those of a retrospective study based on the data from National Cancer Database (NCDB) in the United States [7]. According to NCDB, during the 2010–2013 period, 2,461 women underwent RH for FIGO stage IA2 or IB1 cervical cancer. Among them, 1,225 (49.8%) underwent MIS RH and 1,236 (50.2%) underwent open RH. Median follow-up period was 45 months. With regard to results, a higher risk of all-cause mortality (HR=1.65, 95% CI=1.22–2.22; p=0.002) was observed in the MIS RH group. Additionally, authors showed that the adoption of MIS was associated with a decline in the 4-year relative survival rate of 0.8% per year after 2006 (95% CI=0.3–1.4; p=0.01 for change

of trend) by interrupted time-series analysis of the data from the Surveillance, Epidemiology, and End Results (SEER) program database for the 2000–2010 period.

Previously, several non-randomized studies have shown perioperative advantages [8-12] and similar oncologic outcomes of MIS RH compared to those of open RH [13-16]. However, the LACC trial is the first randomized study which compared the survival outcomes of MIS and open RH in patients with cervical cancer. Although some controversies regarding insufficient surgeons' proficiency and a lack of effort to minimize tumor spillage in the MIS group still surround this study, the clinical impact of this LACC trial results cannot be denied.

All cervical cancer patients scheduled to undergo RH should be informed about the outcome of this LACC trial. MIS RH should be chosen to treat proper candidates according to the current practice guidelines, and it should be performed by gynecologic oncologists who are skilled at performing MIS. Furthermore, establishment of optimal indication for performing MIS based on the tumor size and surgical methods to minimize tumor destruction or intraperitoneal spillage during colpotomy is required to ensure the oncologic safety of MIS in cervical cancer.

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