

Laparoscopic technique for step-by-step nerve-sparing Okabayashi radical hysterectomy

Kentaro Sekiyama ,¹ Yukiko Ando,² Atsuko Taga,¹ Yuki Kozono,¹ Toshihiro Higuchi,¹ Shingo Fujii³

¹Department of Obstetrics and Gynecology, Kitano Hospital, Osaka, Japan

²Department of Obstetrics and Gynecology, Hyogo Prefectural Amagasaki General Medical Center, Amagasaki, Japan

³Professor Emeritus, Department of Gynecology and Obstetrics, Kyoto University, Kyoto, Japan

Correspondence to

Dr Kentaro Sekiyama,
Department of Obstetrics and Gynecology, Kitano Hospital,
530-8480 Osaka, Japan;
kentsekiyam@gmail.com

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SUMMARY

In Japan, the standard procedure for radical hysterectomy is based on Okabayashi's approach reported in 1921.¹ A novel aspect of this technique is the discovery of the paravaginal space between the posterior (dorsal) leaf of the vesico-uterine ligament and vaginal blood vessels in the paracervix. The posterior (dorsal) leaf of the vesico-uterine ligament contains several vesical veins that drain into the deep uterine vein in the cardinal ligament. Complete division of the posterior (dorsal) leaf of the vesico-uterine ligament reveals the bladder branch from the inferior hypogastric plexus and enables selective division of the uterine branch from the inferior hypogastric plexus. Consequently, Okabayashi's approach is suitable for nerve-sparing radical hysterectomy.² In this video (video 1), we laparoscopically replicated the step-by-step procedure of an open abdominal nerve-sparing Okabayashi radical hysterectomy² for cervical cancer of International Federation of Gynecology and Obstetrics (FIGO) IB1 (tumor size <2 cm) to show the same capability as open radical hysterectomy. Because tumor spillage into the peritoneal cavity is considered as a cause of the inferior outcomes with minimally invasive surgery in the Laparoscopic Approach to Cervical Cancer (LACC) trial,^{3,4} we avoided use of the uterine manipulator and developed an original complete clamping system for the vaginal wall before colpotomy. The highlights are as follows:

1. Uterine traction is created by a string penetrating the uterine fundus. In the first half of the procedure, the uterus is suspended in the suprapubic direction. In the second half, the uterus is suspended

in the cranial direction. In cases of a uterine malignancy, the uterine manipulator is not used.

2. After dividing the anterior (ventral) leaf of the vesico-uterine ligament, the ureter is freed from the uterine cervix down to the bladder trigone. The ureter is suspended in the inguinal direction and the posterior (dorsal) leaf of the vesico-uterine ligament is completely exposed.
3. At a level 2–3 cm cranial from the insertion of the ureter, the paravaginal space is developed in the paracervix between the posterior (dorsal) leaf of the vesico-uterine ligament and the vaginal blood vessels (paracolpium).
4. Complete division of vesical veins in the posterior (dorsal) leaf of the vesico-uterine ligament reveals the bladder branch and the uterine branch from the inferior hypogastric plexus. The uterine branch is selectively divided.
5. Before colpotomy, a 70 mm bulldog clip (PL541S; Aesculap AG, Germany) is applied to the vaginal wall to prevent tumor spillage.

Contributors All authors conceived the study concept. Kentaro Sekiyama performed the surgery and wrote the initial draft of the manuscript. Yukiko Ando, Atsuko Taga and Yuki Kozono assisted in the surgical procedure. Toshihiro Higuchi and Shingo Fujii advised on the surgical procedure. All authors participated in writing the manuscript, and approved the final version.

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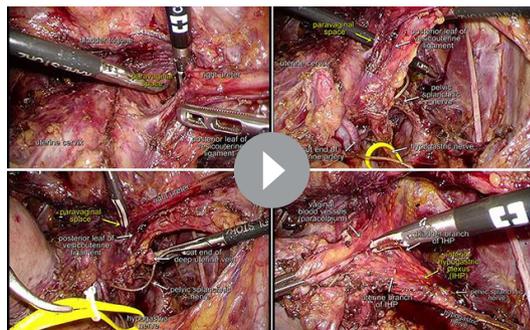
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ORCID iD

Kentaro Sekiyama <http://orcid.org/0000-0002-3770-7099>

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video 1



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Video article

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