

# Easy Standardized Technique for Dissection of the Anterior Leaf of the Vesicouterine Ligament

Kenro Chikazawa\*, Ken Imai, Tomoyuki Kuwata, Ryo Konno

Department of Obstetrics and Gynecology, Saitama Medical Center, Jichi Medical University, Saitama, Japan

## OBJECTIVE

Standardizing surgical techniques is difficult. However, achieving standardization, maintaining the adequacy of radical procedures, and adhering to the principles of oncologic concepts are crucial in treating cervical cancer and obtaining high survival rates.<sup>[1-3]</sup> Dissecting the anterior leaf of the vesicouterine ligament is notably difficult and hemorrhage-prone; thus, skeletonizing the uterine artery and vesicouterine ligament is emphasized.<sup>[4]</sup> The anterior leaf of the vesicouterine ligament receives branches from the uterine artery and the superior vesical vein; these branches ultimately drain into the superficial uterine vein [Figure 1].<sup>[5,6]</sup> The arteries, veins, lymphatics, and nerves form a net-like arrangement around the ureter. To dissect the anterior leaf of the vesicouterine ligament, it is useful to suspend the umbilical artery. In addition, a precise and complete lymphadenectomy should be performed on the lateral iliac, internal iliac, and cardinal ligament lymph nodes. The central and lateral sides of the ureter are located farther from the vesicouterine ligament, thereby creating some distance between the ureter and potential sources of hemorrhage (primarily lymph and vesical vein). Dissecting lymph nodes facilitates the identification of anatomical structures around the ureter, thus simplifying hemostasis.<sup>[7]</sup>

## DESIGN

A step-by-step explanation of the procedure with surgical video footage [Video].

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## PATIENT

A Japanese female patient diagnosed with early-stage cervical cancer.

## INTERVENTIONS

The standardized procedure was as follows:

1. Lymph nodes were dissected starting from the internal iliac artery and subsequently from the internal iliac vein
2. The internal iliac nodes run along the hypogastric nerves, which innervate the rectum, uterus, and bladder. The lymph nodes were dissected from the hypogastric nerve/ureterohypogastric fascia and branches of the hypogastric nerves up to the rectum
3. The umbilical artery was suspended; however, the uterine artery was not resected. This suspension caused traction between the ureter and uterine artery, as well as between the ureter and superior vesical artery. This technique helps surgeons to easily dissect the ureter branch
4. Subsequently, the cardinal ligament lymph nodes and connective tissue between the uterine artery and superior vesical artery were dissected
5. Direct resection of the cervicovesical vessels is considered dangerous and is, therefore, not performed. Before resecting these vessels, the bladder was further dissected toward the medial side of the cervicovesical vessels. It is crucial to dissect the loose connective tissue from both sides of these vessels.

### Address for correspondence:

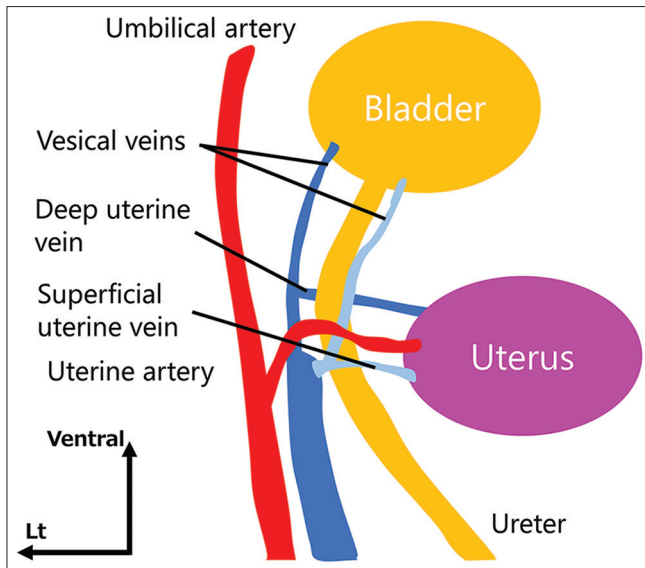
Dr. Kenro Chikazawa,  
Department of Obstetrics and Gynecology, Jichi Medical University, Saitama  
Medical Center, 1-847 Amanuma, Omiya, Saitama 330-8503, Japan.

E-mail: [kendokenro@hotmail.com](mailto:kendokenro@hotmail.com)

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**Figure 1:** The anterior leaf of the vesicouterine ligament is supplied by the uterine artery and superior vesical vein, draining into the superficial uterine vein. Precision in lymphadenectomy is vital for ligament dissection, reducing hemorrhage risk. Lymph node dissection allows the identification of ureteral anatomical structures, simplifying hemostasis <http://www.apagemit.com/page/video/show.aspx?num=315&kind=2&page=1>

## RESULTS

This easy, safe, and standardized technique enabled the successful dissection of the anterior vesicouterine ligament.

## CONCLUSION

We presented our standardized method for resecting the anterior leaf of the vesicouterine ligament. This video can guide gynecologists in performing radical hysterectomies.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patients have given their consent for their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed. The study was approved by The Institutional Review Board (approval No.S23-107).

## Author contributions

Kenro Chikazawa: Conceptualization, Methodology, Original draft preparation. Ken Imai: Data curation, Visualization, Conceptualization. Tomoyuki Kuwata: Supervision. Ryo Konno: Writing- Reviewing and Editing.

## Data availability statement

Data sharing not applicable to this article as no datasets were generated or analyzed during the current study.

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Nil.

## Conflicts of interest

K. Chikazawa received lecture honoraria from Ethicon (Tokyo, Japan), Terumo (Tokyo, Japan), and Chugai Pharmaceutical Co. (Tokyo, Japan). K. Imai received lecture honoraria from AstraZeneca (Tokyo, Japan). R. Konno received research funds from Yakult Pharmaceutical Industry Co. (Tokyo, Japan) and Chugai Pharmaceutical Co. (Tokyo, Japan) and lecture honoraria from Japan Vaccine Co. (Tokyo, Japan), MSD Japan (Tokyo, Japan), and Chugai Pharmaceutical Co. (Tokyo, Japan). The funding organizations did not contribute to the design or outcome of the study. The remaining authors declare that they have no conflicts of interest.

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