Scientific Research Publishing

Open Journal of Obstetrics and Gynecology, 2022, 12, 624-632
https://www.scirp.org/journal/ojog
ISSN Online: 2160-8806
ISSN Print: 2160-8792

Vaginal Trachelectomy for Retained Cervical Stump after Supracervical Hysterectomy: Technical Tips and Outcomes

Mohamed Ayaty[1], Hisham Khalifa[1], Sherif M. S. Abohleka[2], Haitham Abdel Wahab[2*]

[1]Gyne-Oncology Department, National Cancer Institute, Cairo, Egypt
[2]Gyne-Oncology Department, El-Galaa Maternity Teaching Hospital, Cairo, Egypt
Email: *dr_haytham89@yahoo.com

How to cite this paper: Ayaty, M., Khalifa, H., Abohleka, S.M.S. and Wahab, H.A. (2022) Vaginal Trachelectomy for Retained Cervical Stump after Supracervical Hysterectomy: Technical Tips and Outcomes. *Open Journal of Obstetrics and Gynecology*, **12**, 624-632.
https://doi.org/10.4236/ojog.2022.127056

Received: March 7, 2022
Accepted: July 20, 2022
Published: July 23, 2022

Abstract

Background and Objectives: The supracervical hysterectomy (SCH) has resulted in a group of patients with a retained cervix at risk of persistent symptoms, who may require a trachelectomy in the future. This study was to evaluate the efficacy of vaginal trachelectomy (VT) after a previous SCH. **Methods:** This was a prospective study that includes 13 cases with different ages and different complaints, sharing the same primary operation supracervical hysterectomy. They have different pathologies of the SCH specimen but they share the same completion surgery. The surgical outcome was analyzed. **Results:** Thirteen patients underwent vaginal trachelectomy for recurrent symptoms. The ages of patients were ranged from 37 years to 68 years (Mean ± SD, 56.4 ± 10.7). SCH was most commonly performed for abnormal uterine bleeding AUB (7/13, 53.8%), pelvic mass (5/1, 38.5%), and pelvic pain (1/13, 7.7%), the symptoms leading to vaginal trachelectomy were the same as those leading to supracervical hysterectomy. The median interval time from SCH to seeking medical help for the persistence or recurrence of symptoms and to VT was 2 weeks (1 to 96 weeks). Concomitant procedures were laparoscopic removal of both ovaries in 2 cases and pelvic lymphadenectomy in 1 case. The median length of operation was 45 minutes. In all cases, symptoms leading to trachelectomy resolved completely after surgery, and patients reported a significant improvement. **Conclusions:** The cervix, left behind at subtotal hysterectomy, requires removal, the vaginal route is probably the safest, and least traumatic. Vaginal radical trachelectomy appears to be feasible and safe for the treatment of endometrial malignancy discovered after supracervical hysterectomy.

Keywords

Supracervical Hysterectomy, Cervical Stump, Vaginal Trachelectomy

1. Introduction

The subtotal or supracervical hysterectomy was described as "one of the safest major operations" performed within the abdominal cavity by Bland in 1924 [1].

Common indications for removal of the cervical stump include cyclic bleeding, prolapse, pelvic mass, pain, and severe cervical dysplasia/carcinoma in situ or cervical cancer. The risk of cervical cancer in the remaining stump is 0.7% and unchanged by the prior subtotal hysterectomy [2].

The American College of Obstetrics and Gynecology reports that 1.5% of patients required a second surgery to remove the cervix less than 3 months from the time of their original subtotal hysterectomy, and 23% of women were required to return to the operating room for excision of the cervical stump at a mean of 14 months from their first surgery. Vaginal bleeding is experienced by 11% - 17% of women having undergone a subtotal hysterectomy [3].

The most common complications of excising the cervical stump include infection and bleeding in 9% and bowel injury in 2% [4].

Fewer complications are noted with a vaginal approach when compared to an abdominal excision [4].

2. Materials and Methods

This study was a prospective study for women who had RT after SCH for benign indications.

The study was approved by our institutional review board.

Clinical data were obtained from the patients' electronic medical records. Information regarding patient demographics and medical, surgical, obstetric, and gynecologic history were collected. The indications for SCH, the mode of surgery, and the postoperative course were reviewed.

In regard to the RT procedure, we performed combined colposcopy and cervical smear for all 13 patients in El-Galaa maternity teaching hospital, gathered data regarding the indications for surgery, the preoperative imaging performed, and the time interval between SCH and RT. Any concomitant procedure at the time of the RT was documented.

Intraoperative findings, postoperative course, and findings on final pathology were obtained. Patient charts were reviewed to document resolution and persistence or worsening of symptoms.

Description of Surgical Technique

Patients in our series were referred to the division of gynecologic surgery for persistent symptoms after SCH. All had complex surgical history, including multiple laparotomies and pelvic adhesions or both. Therefore, vaginal trachelectomy was offered as a safe and effective surgical approach.

All women underwent an outpatient chemical bowel preparation and were given perioperative prophylactic antibiotics.

After the induction of general anesthesia, the patient was placed in a dorsal

supine lithotomy position. A Foley catheter was inserted into the bladder. The patient is placed in a supine position & the legs will be placed in stirrups. The cervical stump will be grasped with the vorsellum (**Figure 1**). Brisky vaginal retractors are used to open the vaginal field, hydro-dissection by injection of diluted adrenaline (**Figure 2**) (ampoule adrenaline to 200 ml saline). In the vesicouterine plane then anterior colpotomy is performed by a sharp blade (**Figure 3**). Gentle upward traction is applied to the anterior vaginal epithelium to facilitate exposure of the vesicouterine space. With downward counter-traction on

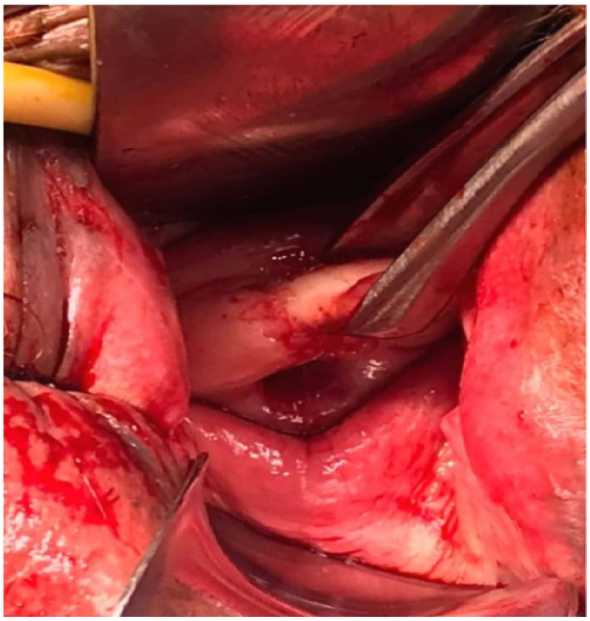

Figure 1. Grasping of cervix by vorsellum (step 1).

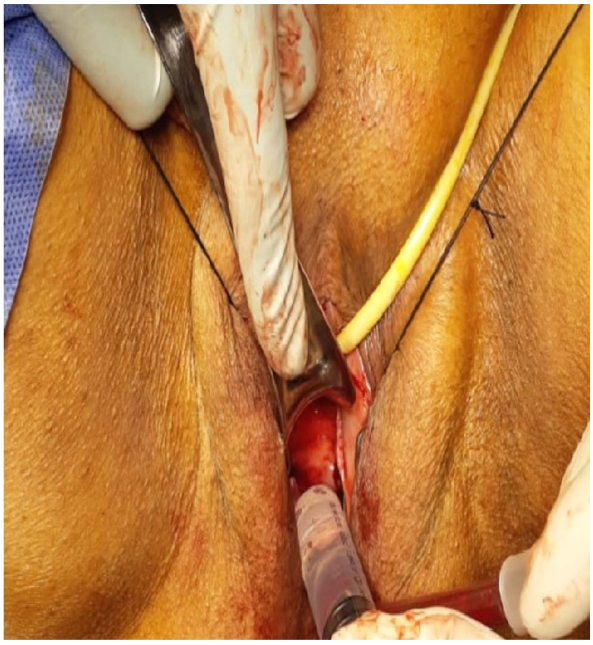

Figure 2. Hydro-dissection (step 2).

Figure 3. Anterior dissection of bladder from cervical stump (step 3).

the cervix, the bladder is sharply dissected off the cervix (easy dissection due to hydro-dissection) using incisors until the vesicouterine peritoneum is identified and incised. If previous surgery or disease has caused extensive adhesions, sharp dissection rather than blunt dissection should be performed. Blunt dissection with a sponge stick or the operator's finger in the case of dense adhesions can cause shearing and tear with increased risk for incidental cystotomy and subsequent vesicovaginal fistula formation. Next, we turn our attention to the posterior entry. Again, hydro-dissection by injection of diluted adrenaline in Cul De Sac then posterior colpotomy performed by the sharp blade with gentle traction on the posterior vaginal epithelium and upward counter traction of the cervix, the posterior cul-de-sac is identified and entered sharply (**Figure 4**). Next, the uterosacral ligaments on each side are identified, Coagulation and transection of uterosacral ligaments, parametrium and the cardinal ligament complex including descending branch of the uterine artery to the cervix by using the electrical device (Ligasure, Harmonic or in seal) (**Figure 5**) or serial pedicles are suture ligated, including the cardinal ligament complex (**Figure 6**). (Electric devices are useful in high-placed retained cervical stump due to difficult suturing in closed vaginal space, no need for suturing, timeless operation, and safe). Closure of vaginal stump (**Figure 7**), finally the retained cervical stump and both ovaries after (VT) assisted laparoscopy (**Figure 8**).

3. Results

Thirteen patients underwent vaginal Trachelectomy for persistent or recurrent symptoms of the retained stump after supracervical hysterectomy. The ages of patients were ranged from 37 years to 68 years (Mean ± SD, 56.4 ± 10.7) as shown in **Table 1**.

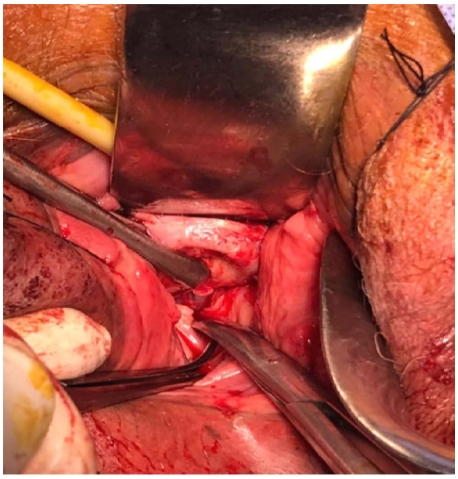

Figure 4. Posterior dissection of Douglas pouch (step 4).

Figure 5. Excision of retained cervical stump by ligasure (step 5).

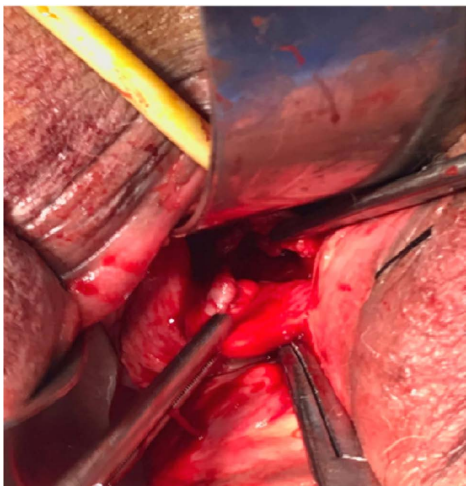

Figure 6. Vaginal vault after excision of cervix.

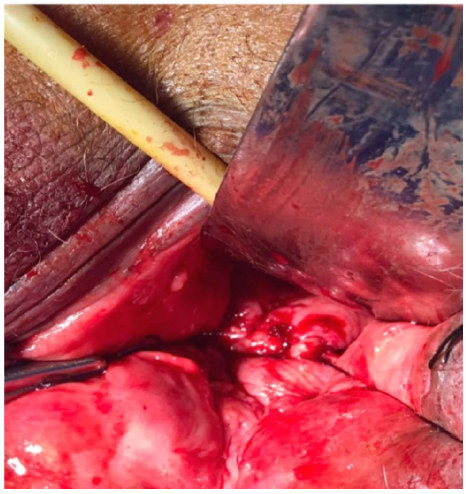

Figure 7. Closure of vaginal vault (step 6).

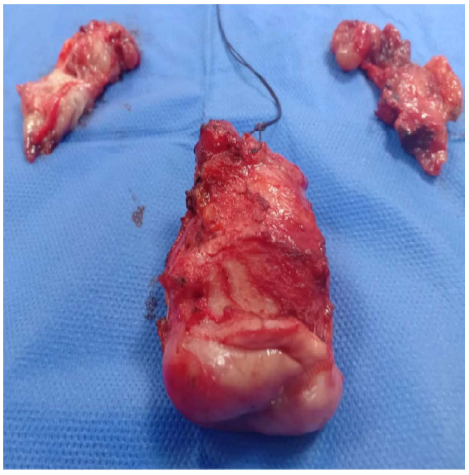

Figure 8. Retained cervical stump by VT and bilateral oophorectomy assisted by laparoscope.

Table 1. Age and interval time.

	Mean	SD	Median	Minimum	Maximum
Age (years)	56.3	10.7	58	37	68
Time interval (weeks)	14.5	27.7	2	1	96

SCH was most commonly performed for abnormal uterine bleeding AUB (7/13, 53.8%), pelvic mass (5/1, 38.5%) and pelvic pain (1/13, 7.7%) as shown in Table 2.

More than one indication for surgery was present in 92% of the cases. Abdominal SCHs were performed in 100% of cases. The symptoms leading to VT were the same as those experienced prior to SCH. In 1 of the cases, the SCH specimen was diagnosed as uterine adenocarcinoma necessitating a trachelectomy 1 week after the surgery. In 2 of the cases, a cervical smear was obtained during follow for the cervical stump to rule out dysplasia, and Cervical intraepithelial

Table 2. Indications of SCH and VT.

	Data	Count	Percentage %
Indication of SCH	Pelvic Pain	1	7.7
	AUB	7	53.8
	Pelvic Mass	5	38.5
Comorbidity	No	10	76.9
	Yes	3	23.1
Indication of Vaginal Trachelectomy	P + Ve Smear	2	15.4
	Residual tumor	11	84.6
Pathology	Pre-Malignant	2	15.4
	Benign	10	76.9
	Malignant	1	7.7
Concomitant (procedures)	No	10	76.9
	Yes	3	23.1

neoplasm CIN grades 2 and 3 were found as a premalignant lesion.

The median interval time from SCH to seeking medical help for the persistence or recurrence of symptoms and to VT was 2 weeks (1 to 96 weeks). Interval pelvic imaging, pelvic ultrasound followed by pelvic magnetic resonance imaging, demonstrated residual uterine tissue, pelvic mass in 11 of the 13 patients. Concomitant procedures, mostly adnexal, were performed in 3 of 13 cases (23%). Concomitant procedure was laparoscopic removal of both ovaries in 2 cases and pelvic lymphadenectomy in 1 case. The median length of operation was 45 minutes. The median postoperative length of stay after VT was 1 d.

Final pathology showed CIN in 2 cases, cervicitis in another 3, and well-differentiated endometrioid adenocarcinoma in 1 of the cases. normal cervix in the remaining 7 cases.

Pathology results support the presence of suspected residual uterine tissue demonstrated by imaging studies. In all cases, symptoms leading to trachelectomy resolved completely after surgery, and patients reported a significant improvement.

4. Discussion

Based on statistics, there is a dramatic increase in a subtotal hysterectomy surgery over total hysterectomy for benign indications in Egypt due to many factors, but the most common factor was fear of complications from gynecologists as a study performed in august 2019 in Tanta University by Dawood *et al*. [5].

In our study, the most common complaint in our 13 cases to undergone subtotal Hysterectomy was Abnormal Uterine Bleeding 53.8% and most of them without endometrial biopsy pathology, 38.5% was pelvic mass (fibroid is the most common), and 7.7% due to pelvic pain.

Figure 9. Cervical intraepithelial neoplasm CIN3.

The most common co-morbidity with the cases was morbid obesity, diabetes, and DVT. Which made the decision of abdominal incision more difficult as sepsis, incisional hernia, and pulmonary embolism are more common in these cases, so the vaginal route was more preferred as Time operation is less than an hour, estimating blood loss less than 100 ml, Bladder and bowel injury are less common in vaginal trachelectomy.

The most common indication for Vaginal Trachelectomy was completion of cervical residual tumor excision in 11 cases as the pathology of most of the previous subtotal hysterectomies were endometrial malignancy and premalignancy, the pathology of the cervical stump after trachelectomy was benign in 10 cases, two were CIN 2 and 3 (**Figure 9**) plus only one was endometrioid adenocarcinoma.

The additional concomitant procedure was laparoscopic removal of both ovaries in 2 cases and pelvic lymphadenectomy in 1 case.

Due to the Time interval between the subtotal Hysterectomy and the vaginal trachelectomy, the less the time interval is, the less malignant or premalignant transformation of the retained cervical stump is.

5. Conclusions

As there is an increase in subtotal hysterectomy in some centers, removal of the residual cervix may be required more frequently.

1) Vaginal radical trachelectomy appears to be feasible and safe for the treatment of endometrial malignancy discovered after supracervical hysterectomy.

2) Cervical screening is very important for retained cervical stump if unwilling cervical excision.

3) Electrosurgery in vaginal trachelectomy is safer, less time operation, less blood loss, and replaces difficult pedicles suturing in blind vaginal fields.

Consent

Written informed consent was obtained from the patient for publication of this case report. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

Authors' Contributions

All authors have read and approved the final manuscript.

Competing Interests

The authors declare that they have no competing interests.

References

[1] Bland, P. (1924) Gynecology—Medical and Surgical. F. A. Davis Company, Philadelphia, 975 p.

[2] (2015) Cancer Stat Facts: Cervical Cancer. National Cancer Institute, Washington DC. https://seer.cancer.gov/statfacts/html/cervix.html

[3] (2007) ACOG Committee Opinion No. 388 November 2007: Supracervical Hysterectomy. *Obstetrics and Gynecology*, **110**, 1215-1217 https://pubmed.ncbi.nlm.nih.gov/17978148/ https://doi.org/10.1097/01.AOG.0000291564.32956.de

[4] Hilger, W.S., Pizarro, A.R. and Magrina, J.F. (2005) Removal of the Retained Cervical Stump. *American Journal of Obstetrics and Gynecology*, **193**, 2117-2121. https://doi.org/10.1016/j.ajog.2005.07.015

[5] Dawood, A.S., Borg, H.M. and Atlam, S.A. (2019) Assessment of the Egyptian Gynecologists' Clinical Attitude and Practice Concerning the Route of Hysterectomy. *MOJ Women's Health*, **8**, 255-259. https://doi.org/10.15406/mojwh.2019.08.00247