

A Decade of Experience with Radical Abdominal Trachelectomy after Supracervical Hysterectomy

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ABSTRACT

Background: The supracervical hysterectomy is no longer indicated for the treatment of female genital disease.

Patient and Methods: All women who had trachelectomy after supracervical hysterectomy between 2010 and 2020 had their records reviewed at Cairo University's National Cancer Institute (NCI) Hospital.

Results: A total of 34 trachelectomy surgeries were performed during a ten-year period. The patients were 42 to 72 years old, with a mean \pm SD of 55 ± 7.5 . Recurrent vaginal bleeding was the reason for trachelectomy in 67.6% of cases due to residual disease found in hysterectomy specimens, with pathologic evidence of uterine malignancy in 47.2%, and 11.7 percent of patients had cervical malignancy. Uterine stromal sarcoma was found in 5.9% of the cases. There were 11.8% of cases with uterine fibroids, 7.8% with endometrial hyperplasia, and 2.9% with uterine adenomyosis who had true benign lesions. There were no pathology reports available in 8.8% of the cases. The pathology of the trachelectomy revealed that 26.5% of patients had no residual disease, while 73.5% had the residual disease in the cervical stump, with 32.4% having cervical squamous cell carcinoma, 20.6% having uterine adenocarcinoma, 8.8% having cervical adenocarcinoma, and 2.9% having cervical adenosquamous. Mullerian carcinoma was found in 2.9% of the cases, whereas undifferentiated carcinoma was found in 2.9%. In 61.8% of cases, bilateral pelvic lymphadenectomy was coupled with trachelectomy for radical excision of gross malignancy.

Conclusions: A significant number of patients who had a subtotal hysterectomy for apparent benign illness required trachelectomy within a few months.

Keywords: Cervical stump, Trachelectomy.

INTRODUCTION

Cervical stump excision (trachelectomy) is the removal of the cervix following supracervical hysterectomy (SCH). Subtotal or supracervical hysterectomy is an alternative to total hysterectomy in women undergoing hysterectomy for many benign indications, advocates of this procedure hypothesized that removing the entire cervix may diminish sexual response, urinary function, and pelvic support while increasing operative time and complications⁽¹⁾.

Subsequent studies failed to find benefits from retention of the cervix at hysterectomy. Moreover, persistent symptoms in some women, mainly pelvic pain and vaginal bleeding were the cause of subsequent force removal of the cervical stump. The reported incidence of trachelectomy following SCH for benign gynecologic disease ranges between 2% and almost 23%⁽²⁾.

The subtotal hysterectomy is no longer indicated for the treatment of female genital disease with rare exceptions. It has been known for a long time that the remaining cervical stump has very few advantages but many potential risks. Among those who had cervical stumps removed about half of the cases had malignant changes in the cervical stump⁽³⁾.

Problems with retention of the cervical stump have been reported in 5%–22% of patients undergoing supracervical hysterectomy, including persistent vaginal bleeding, prolapse, cervical dysplasia or cancer, and less frequent pathological surprise of cervical or endometrial cancer not detected preoperatively. After a supracervical hysterectomy, new cervical symptoms will develop in up to one-quarter of women⁽⁴⁾.

The American College of Obstetrics and Gynecology reported that 1.5% of patients required a second surgery to remove the cervix in 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⁽⁵⁾.

PATIENTS AND METHODS

A retrospective chart review was conducted at Cairo University's National Cancer Institute Hospital for all women who had trachelectomy after supracervical hysterectomy between January 2010 and October 2020.

34 patients with residual cervical stumps after supracervical hysterectomy were included due to pathological surprise in the final pathological report as



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endometrial cervical cancer and/or abnormal cervical stump bleeding.

Patients who had a metastatic disease were excluded.

A. Medical records:

Data from the National Cancer Institute Hospital-based registry were used to generate a list of all patients diagnosed with mucinous ovarian cancer at the period from January 2010 to October 2020. Records were scrutinized at archives of biostatistics and Surgery and Pathology Departments.

B. Data:

A pre-determined sheet was used to fulfill the objectives of the study. All patients' files were reviewed to obtain all available data as follows: Patient's name, Patient age, Menopausal status, Symptoms before subtotal surgery, Persistent symptoms after surgery, Time lag between surgery and recurrent symptoms, Urinary and sexual symptoms after supracervical hysterectomy, Complications of abdominal trachelectomy surgery,

Pathology of subtotal hysterectomy operation and Pathology of trachelectomy operation.

Ethical Committee approval:

The study was approved by the Ethics Board of National Cancer Institute, Cairo University (1150).

Statistical methods

Data were analyzed using IBM Statistical Package for the Social Sciences, version 24 (SPSS Inc., Chicago, IL). Numerical data were described as mean, standard deviation, median, and range, while qualitative data were described as number and percentage.

RESULTS

Thirty-four patients were admitted to the Gynecology Surgical Department for removal of retained cervical stump over 10 years. The age of patients ranged between 42 years and 72 years with mean \pm SD were 55 ± 7.5 (Table 1).

Table (1): Age distribution for the 34 patients included.

	Mean	SD	Median	Minimum	Maximum
Age (years)	55.8	7.5	55	42	72
Time Months	32.2	48.7	6	2	156
Time interval from SCH to RT (years)	2.7	4.1	0.5	0.1	13

SCH: supracervical hysterectomy. RT: radical trachelectomy.

The preoperative indications for supracervical hysterectomy in these 34 patients were: pelvic mass (6), abnormal uterine bleeding (24), pelvic pain (1), and simple and complex atypical endometrial hyperplasia (3).

The main indication for supracervical hysterectomy was vaginal bleeding. All patients underwent supracervical hysterectomy for suspected non-malignant uterine lesions. The indication for trachelectomy in our study was persistent symptoms after subtotal hysterectomy due to cervical cancer or residual uterine malignancy.

Twenty-four patients 67.6% endured postoperatively from repetitive vaginal bleeding, whereas 11 patients 32.4% had no specific complaints or repetitive indications when alluded to our hospital for completion hysterectomy.

Data revealed from the collection of pathology reports of the subtotal hysterectomy method and examination of patients to analyze the cause of persistent or recurrent vaginal bleeding is shown in table 2.

On the examination of pathology of the trachelectomy and comprising it with accessible past reports, the data were diverse (Table 2).

Table 2: Pathology of subtotal hysterectomies and trachelectomy

	N (%)
Pathology of Previous Subtotal Hysterectomy	
Endometrial Adenocarcinoma	16 (47.1)
Uterine Fibroid	4 (11.8)
Cervical Adenocarcinoma	3 (8.8)
Cervical Squamous Cell Carcinoma	2 (5.9)
Simple Endometrial Hyperplasia	2 (5.9)
Uterine Stromal Sarcoma	2 (5.9)
Endometrial Hyperplasia	1 (2.9)
Uterine Adenomyosis	1 (2.9)
No Available Pathology	3 (8.8)
Pathology of Trachelectomy	
Cervical Squamous Cell Carcinoma	11 (32.4)
No Residual Tumor	9 (26.5)
Endometrial Adenocarcinoma	7 (20.6)
Cervical Adenocarcinoma	3 (8.8)
Aden squamous Cell Carcinoma	1 (2.9)
Cervical Adenosarcoma	1 (2.9)
Mixed Mullerian Tumor	1 (2.9)
Undifferentiated Carcinoma	1 (2.9)

The symptoms, which followed subtotal hysterectomy are shown in table 3.

Table (3): Symptoms post subtotal hysterectomy

symptoms Post Subtotal Hysterectomy	N (%)
Urinary Symptoms	
No	22 (64.7)
Yes	12 (35.3)
Urinary Symptoms	
Frequency of Micturition	5 (41.7)
Urine Incontinence	5 (41.7)
Dysuria	1 (8.3)
Urine Leakage Postoperatively	1 (8.3)
Sexual Function	
Dyspareunia	13 (38.2)
Normal	21 (61.8)
Recurrent Symptoms	
No Symptoms	11 (32.4)
Vaginal Bleeding	23 (67.6)

Trachelectomy is a complex procedure that can cause complications during surgery (Table 4).

Table (4): Complications of trachelectomy surgery

	N (%)
Complications	
No	25 (73.5)
Yes	9 (26.5)
Complications (N=9)	
Intraoperative Bladder Injury	2 (22.2)
Intraoperative Small Intestinal Loop Injury	2 (22.2)
Ureteric Injury	2 (22.2)
Rectal Tear and Bladder Tear	1 (11.1)
Resection of Loop of Small Intestine	1 (11.1)
Sigmoidectomy	1 (11.1)

Postoperative wound infection occurred in 11 patients. In 21 patients with enlarged pelvic nodes and suspected lymph node metastasis, classical bilateral pelvic lymphadenectomy was combined with trachelectomy to radically malignancies.

Table (4): Wound infection and pelvic lymphadenectomy

	N (%)
Wound Infection	
No	23 (67.6)
Yes	11 (32.4)
Pelvic Lymphadenectomy	
No	13 (38.2)
Yes	21 (61.8)

DISCUSSION

The study of the abdominal trachelectomy after subtotal hysterectomy included 34 cases at different stages of the disease. All patients were referred to our institute as a tertiary hospital for the management of cancer patients.

When reviewing previously performed partial hysterectomy for all patients included in this study, in order to identify possible complications during surgery and to change the decision on abdominal hysterectomy, intraoperative complications were not recorded. The decision was accepted in the clinic to plan a partial hysterectomy to prevent injury to the bladder, ureter, and rectum, and to preserve the cervix to prevent possible urinary and sexual complications after a hysterectomy.

The post subtotal hysterectomy did not prevent urinary or sexual symptoms. On gathering the history of patients post subtotal hysterectomies; 12 patients (35.3%) had urinary symptoms as follows; 5 patients had incontinence, 5 patients had a frequency of micturition, one patient had dysuria, one patient had leakage of urine (8.3%). 13 patients (38.2%) had dyspareunia.

The main indication for trachelectomy in this study was persistent or recurrent vaginal bleeding (67.6%). Eleven patients (32.4%) had no complaints, but cancer was discovered incidentally in a subtotal hysterectomy specimen and referred to our hospital. In contrast to the indications for the largest series of trachelectomy from a single institution, the most common indications were prolapsing (52%), pelvic mass (25%), abnormal cervical cytology (9%), bleeding (6%), pelvic pain (4%), non-cervical cancer (3%), and dyspareunia (1%)⁽⁵⁾. The main explanation for the difference in data and number of patients is that NCI is a cancer-specific institute, that does not treat other gynecological diseases.

The minimum time lag between subtotal hysterectomy and trachelectomy in our study was 2 months (median=6 months). Up to 1.5 percent of patients undergo trachelectomy within three months of their supracervical hysterectomy^(1,4,6). While the mean duration of time between supracervical hysterectomy and trachelectomy was 21 years when the indication for trachelectomy was developed cervical cancer of retained cervical stump and 31 years when the indication was prolapse⁷. The maximum time between two surgeries in our study was 13 years.

In this study; bilateral pelvic lymphadenectomy was combined with trachelectomy in 61.8% of patients. The most frequent concurrent surgeries with tracheostomy were pelvic lymphadenectomy (73.3%) and oophorectomy (66.6%)⁽⁷⁾.

Obviously, most obstetricians perform total abdominal hysterectomy by performing a subtotal hysterectomy in untrained centers based on symptoms of menopausal bleeding clinically without preoperative pathological examination (dilation and curettage or round biopsy). To avoid trauma to the ureter and bladder during cervical resection, a partial hysterectomy is usually performed. In particular, cervical carcinoma is rare in patients who have previously undergone partial hysterectomy, accounting for 2–9% of all cervical cancers. Worldwide⁽⁸⁾.

Information about complications and outcomes of trachelectomy is limited because most reports are small retrospective case series or descriptions of single cases, and the procedures were performed for a variety of indications, by different approaches, and often with additional surgical procedures⁽⁹⁻¹⁰⁾. In this study majority of patients (73.5%) didn't suffer from intraoperative complications and were discharged rapidly from the hospital. While (26.5%) of patients had suffered from intraoperative complications in the form of bladder injury (22.2%), small bowel injury (22.2%), ureteric injury (22.2%), small bowel resection and anastomosis (11.1%), sigmoidectomy (11.1%), combined bladder and rectal injury (11.1%). Descriptions of complications were associated with tissue stratification, fibrin or fibrinous adhesions in the injured area.

CONCLUSION

A clinically significant proportion of patients underwent supracervical hysterectomy with overt benign disease required trachelectomy within a few months due to the pathological detection of uterine and initial cervical malignancies in hysterectomy specimens. The rationale is the brevity of examination and investigations of patients with menopausal vaginal bleeding who were treated in an untrained center to do total abdominal hysterectomy.

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