

## Peri-Operative Findings of Laparoscopic Radical Trachelectomy for Early Cervical Cancer

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**Abstract:** Cervical cancer is one of the most common malignancy causing cancer related deaths in women worldwide. Early diagnosis of cervical cancer along with improvised therapeutic approaches helps to reduce the burdens of this cancer in young women of reproductive age. Laparoscopic radical trachelectomy is regarded as superior technique in this field. We conducted retrospective study on 55 patients with cervical cancer treated with laparoscopic radical trachelectomy in Affiliated People's Hospital of Jiangsu University. The result of analysis was in favor of the technique. Prospective studies with larger sample size and long-term follow up is needed to further support the outcome of this study.

**Keywords:** Cervical Cancer, Radical Trachelectomy, Laparoscopic Radical Trachelectomy.

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### I. Introduction

Cervical cancer is the second most common malignancy and the second most common cause of cancer specific mortality in women worldwide. It is a major health care problem in developing and underdeveloped countries.[1] Recent advancement and wide availability of screening programs have made it possible to diagnose cervical cancer at an early stage in young women of reproductive age. Recent advancements in treatment modalities are helping young women who haven't completed their childbearing to restore their fertility.[2]

Earlier, Radical Hysterectomy was most frequent choice even for the treatment of earlier cervical cancer. However, recent studies suggested that radical trachelectomy in patients with early cervical cancer yields oncologic outcomes similar to those of radical hysterectomy. This procedure was first described in 1994 by Dargent et al.[3] Radical trachelectomy is a fertility preserving alternative to radical hysterectomy for young women of reproductive age.

Laparoscopic radical trachelectomy is even superior option for the treatment of early cervical cancer as it offers significant post operative advantages, such as, reduced pain, improved cosmesis, faster recovery of physiological function, shorter hospital stay etc.[4] However, it requires advance skills in both laparoscopic and vaginal surgery. In this study we have tried to analyze the peri-operative outcomes in patients who underwent laparoscopic radical trachelectomy between January, 2013 and February, 2014 at affiliated people's Hospital of Jiangsu University, Zhenjiang, Jiangsu, China.

### II. Patients and Methods

We performed a retrospective study of conservative surgical procedures for the treatment of early cervical cancer performed in Gynecology and Obstetrics Department of at affiliated people's Hospital of Jiangsu University. Total 55 patients with cervical cancer were treated with laparoscopic radical trachelectomy. The criteria of selection for the procedure were desire to preserve fertility, absence of distal metastasis, higher cosmesis and early recovery.

### Ethical approval of the study protocol

This retrospective study was approved by Review Board of Jiangsu University (Zhenjiang, China). This study is also in compliance with the World Medical Association Declaration of Helsinki regarding ethical conduct of research involving human subjects and/or animals. All subjects provided written informed consent to be included in the study.

### III. Statistical Analysis

Statistical analysis was performed using SPSS for Windows.

#### IV. Results

##### Characteristics of patients

Characteristics of patients are listed Table 1. The Mean Age of 55 patients in the study was  $48.5 \pm 7.7$  years. 19 patients among them had co-morbidities and 16 had undergone previous abdominal surgery.

##### Pathological Findings

Pathologic findings of the patients are listed in Table 2. The Mean tumor size was  $2.8 \pm 1.4$  cm. histological types of the tumors were confirmed by histopathological studies. Among 55 cases 10 were well differentiated, 39 were moderately differentiated and 6 were poorly differentiated. Tumors were staged according to International Federation of Gynecology and Obstetrics (FIGO) classification and 3 of them were of stage IA1, 6 were of stage IA2, 25 of stage IB1, 5 of stage IB2, 11 of stage IIA, 4 of stage IIB, and 1 of stage IIIB.

##### Intra-operative and Post-operative Findings

Table 3 enlists the outcomes during and after surgery. The Mean Time taken for the surgery was  $158.8 \pm 60.6$  mins. The Mean Estimated Blood Loss was  $222.0 \pm 148.3$  ml. In one case right ureter anastomosis of ruptured section was combined with trachelectomy and urethral stent implantation was done. The mean hospital stay of patients post surgery was  $16.8 \pm 5.7$  days. In 7 cases, post operative complications occurred which didn't need any special intervention and resolved spontaneously.

Table 1. Characteristic of patients

Variable	Trachelectomy (n=55)
Age(yr)	$48.5 \pm 7.7$
Comorbidity	19
Previous abdominal surgery	16

Table 2. Pathologic findings

Variable	Trachelectomy (n=55)
Tumor size (cm)	$2.8 \pm 1.4$
Historical type	
Well diff	10
Moderately diff	39
Poorly diff	6
Stage	
IA1	3
IA2	6
IB1	25
IB2	5
IIA	11
IIB	4
IIIA	0
IIIB	1

Table 3. Surgical outcomes and postoperative courses

Variable	Trachelectomy (n=55)
Operation time (min)	$158.8 \pm 60.6$
Estimated blood loss (mL)	$222.0 \pm 148.3$
Combined operation	1
Hospital stay (d)	$16.8 \pm 5.7$
Postoperative complications	7

#### V. Discussion

Treatment of cervical cancer has been revolutionized by laparoscopic approach and radical trachelectomy highly complies with the important issues such as requirements of better quality of life and fertility preservation.[5] Laparoscopic radical trachelectomy is a less invasive surgical procedure for the women with a desire to preserve their fertility without compromising oncologic outcome.[6].

Laparoscopic radical trachelectomy was described in 2005 by Cibula et al. for the first time.[7] They advocated for the regular use of this technique in higher centers. Some others have described techniques where all procedures were preformed by laparoscopic approach (lymphadenectomy, dissection of paravesical and para rectal space and parametrial resection) and vaginal resection along with cervical amputation was performed by vaginal approach.[8]

In our study no comparison was possible as it only contains only one kind of procedure, laparoscopic radical trachelectomy.

No any unpleasant or uncontrollable situation was encountered during procedure mentioned in this study and all patients recovered spontaneously with expected results. However, analysis of oncologic outcomes could not be done due to small sample size and short follow up.

## **VI. Conclusion**

The finding of our study suggest that laparoscopic radical trachelectomy performed by experienced and capable gynecological surgeon is safe therapeutic options for young women willing to preserve fertility with early cervical cancer. However, large studies with long-term follow up are required to validate the findings of this study.

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