Trachelectomy in Early Cervical Cancer

Sultan Qudah1,2, Omar Abu Azzam1,2,3*, Tarek Athamneh1, Sascha Baum1, Erich-Franz Solomayer2, Mohamad Hammadeh2

Abstract

Objectives: To review the role of trachelectomy as a method of fertility preservation instead of traditional radical hysterectomy in early cervical cancer.

Materials and Methods: We conducted our original study through research in PubMed for all original studies and reviews published in the last 10 years. We reviewed the data available on trachelectomy in early stage cervical cancer whether through abdominal route or vaginal route and laparoscopic lymphadenectomy. Moreover, we reviewed the oncologic outcome, recurrence rate and its effect on subsequent pregnancies.

Results: We found that recurrence and death rates seem to be comparable between radical trachelectomy (RT) and radical hysterectomy. Complications of RT include chronic vaginal discharge, abnormal uterine bleeding, dysmenorrhea, inflammation and ulcer due to cerclage, amenorrhea, and cervical stenosis. Although around 70% can get pregnant after RT, there are increased complications of pregnancy after this procedure mainly 2nd trimester miscarriages and preterm deliveries.

Conclusion: RT is a useful technique associated with an excellent pregnancy rate in fertility-preserving surgery to treat early stage cervical cancer. Selection of suitable patients for conservative treatment is the best important point for getting a good result without any recurrence or complication.

Keywords: Fertility preservation, Radical hysterectomy, Trachelectomy, Uterine cervical neoplasms

Introduction

Cervical cancer is a malignant neoplasm arising from cells originating in the cervix uteri. It is routinely screened by Papanicolaou’s (Pap) smear and human papilloma virus (HPV) is considered as one of its etiological agents. Cervical cancer is the seventh most common cancer in reproductive age and its diagnosis is increasing in young age as a result of effective and widespread screening programs (1). Cervical cancer is the seventh most common cancer in developed countries. In 2004, around 30,750 new cases of invasive cervical cancer were diagnosed in Europe. In 2012, around 12,170 new cases were discovered in USA and the estimated deaths were 4,220. Unfortunately, the incidence of new cases is much more in developing countries due to inefficient screening programs (2). Due to effective and widespread screening programs and the delay in child-bearing age, many women are diagnosed at a time which there is a strong demand for fertility sparing surgery (3). Radical hysterectomy and pelvic lymphadenectomy are the conventional treatment for early stage cervical cancer, but this results in loss of fertility (4). Fertility preservation is one of the most important issues to be discussed with the patient. In the last 20 years, laparoscopy assisted radical vaginal trachelectomy (RVT) and radical abdominal trachelectomy have developed that have good document-
need adjuvant radiotherapy and radical hysterectomy due to positive frozen section or involved endocervical margin (6).

The present study was undertaken with the aim of reviewing the role of trachelectomy as a method of fertility preservation instead of traditional radical hysterectomy in early cervical cancer.

Materials and Methods

Definite treatment of early stages of cervical cancer is radical hysterectomy. However, when fertility preservation is very important, certain methods such as RT and laparoscopic lymphadenectomy are used to rule out lymphatic metastases. Although fertility sparing surgery in early stage cervical cancer is a feasible option with good oncological and obstetrics outcome and relatively minor post-operative complication, the patient should be completely informed regarding these points.

We conducted our study in this regard through research in Pubmed for all studies and reviews published in the last 10 years. We reviewed the data available on trachelectomy in early stage cervical cancer whether through abdominal route or vaginal route and laparoscopic lymphadenectomy. Moreover, we reviewed the oncologic outcome and recurrence rate and its effect on subsequent pregnancies.

Results

Although radical hysterectomy and pelvic lymphadenectomy are the conventional treatment for early stages of cervical cancer, it results in loss of fertility. Meanwhile, the past 20 years have seen the development of fertility-sparing surgeries for young women with early stage cervical cancer. Among these, abdominal and vaginal trachelectomy and laparoscopic lymphadenectomy are widely performed. Although less than 200 reported cases have reported the use of radical trachelectomy worldwide, early data suggests good oncological outcome.

We found that recurrence and death rates seem to be comparable between RT and radical hysterectomy. RT is performed vaginally or abdominally. The main criteria for treatment with RT are the tumor size (should not be greater than 2 cm in diameter) and that the lymph nodes should be histopathologically free of tumor tissue.

Complications of RT include chronic vaginal discharge, abnormal uterine bleeding, dysmenorrhea, inflammation and ulcer due to cerclage, amenorrhea, and cervical stenosis. Although around 70% can get pregnant after RT, there is increase in complications of pregnancy after this procedure including second trimester miscarriages and preterm deliveries, mainly because of premature rupture of the membranes.

Discussion

RVT is a fertility-preserving operation for young women who have cervical cancer in an early stage and want to have children. The demand for RVT is increasing, because more than 40% of all cases of cervical carcinoma affect women under the age of 44. Women are increasingly hav-
ly stage cervical cancer treated by laparoscopic RT, there was no intraoperative complications but 3 postoperative complications were observed. After a median follow up of 66 months, no recurrences were observed, and 9 from 12 patients whom attempted to conceive, got pregnant. In another study by Testa et al. (20) conducted on 25 patients with early cervical cancer managed by radical abdominal tracheectomy, there was no intraoperative complications but 6 postoperative complications were observed. There were no recurrences after follow up of 30 months. Three patients attempted for pregnancy and all of them succeeded with 3 live births. Wethington et al. (21) performed a study on 101 patients who had abdominal RT. Four patients (4%) had recurrence and lived 22-35 months after diagnosis. Of the 38 patients who attempted pregnancy, 28 patients (74%) got pregnant. A larger prospective study with long-term pregnancy and survival analyses is warranted.

Surgical complications
Different studies compared surgical morbidity of vaginal RT and radical hysterectomy (22,23) and found that radical hysterectomy has more morbidity than RT regarding blood loss, analgesia requirement, hospital stay and duration of surgery. In Beiner et al. study (24), the average intraoperative and postoperative complication rates were 4% and 12%, respectively. More than 50% of complications were bladder injury followed by vascular injuries during lymphadenectomy or trocar insertion. There are reported cases of enteroctomy, vaginal fornix laceration, and ureteral injury. Lymphoedema and lymphocyst are more common in radical hysterectomy. According to Alexander-Sestre et al. (25), certain complications are specific to RT including dysmenorrheal (24%), metrorrhagia (17%), problems with cerclage sutures (14%), dysplastic pap smears (24%), excessive vaginal discharge (14%), ischemic stenosis (10%), amenorrhea (7%), and deep dyspareunia.

Conclusion
Although radical hysterectomy is the best treatment of early cervical cancer, conservative management as RT could be performed in certain conditions. RT is a useful technique associated with an excellent pregnancy rate in fertility-preserving surgery to treat early stage cervical cancer. Selection of suitable patients for conservative treatment is the most important point for obtaining a good result without any recurrence or complication. Ongoing research efforts are especially being made in order to identify patient subsets suitable for a conservative/less radical approach and prospectively confirming the oncological safety of the proposed clinical-pathological algorithms.

Ethical issues
Not applicable.

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Conflict of interests
The authors declare that they have no conflict of interests.

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