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CASE SERIES

Announcement of First Successfully Pregnancy Following Abdominal Radical Trachelectomy in Viet Nam

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Abstract

Objectives: Abdominal radical trachelectomy (ART) is an alternative treatment for preserving fertility in selected patients with early - stage cervical cancer. This report to announce one case of successful conceive and gave birth following the abdominal radical trachelectomy. **Materials and Methods:** We have performed 12 cases of radical trachelectomy with pelvic lymphadenectomy in The Oncology Hospital of Ho Chi Minh city between January 2018 and December 2022. One of them has successful live birth after procedure about six months. **Results:** The characteristics of the 12 adult patients, who underwent radical trachelectomy, included stage IB1 disease in all cases, a mean age of 31 years (range, 29–41), and a median estimated blood loss of 100 ml (range, 70–150). No one needed adjuvant treatments after surgery, and all cases resumed normal menstruation postoperatively. There were no intraoperative complications. Transurethral Foley catheters were removed in all cases at postoperative days 02 – 04. Cervical stenosis was observed in one case. One case had successfully conceived and gave births following the abdominal radical trachelectomy. All patients remain disease-free after a median 3 - year follow-up. **Conclusions:** ART with pelvic lymphadenectomy is a feasible operation for selected women with early-stage cervical cancer cases who desire to preserve reproductive function. Menstruation and reproductive function might be preserved after bilateral uterine vessel ligation.

Keywords: Cervical cancer- radical trachelectomy- preserve fertility- pregnancy- Viet Nam.

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Introduction

Cervical cancer is one of the most common female cancers in worldwide. The 2023 report showed that the disease is often diagnosed in women under aged 49 – years [1]. Radical hysterectomy and chemoradiation which are considered as standard treatments for cervical cancer can affect the patients' fertility. Many young patients wish to preserve fertility following treatment. Some surgical procedures are the fertility – sparing surgery options for early – stage cervical cancer which includes conization with or without pelvic lymph node assessments and radical trachelectomy with lymph node assessments.

In 1994, the vaginal radical trachelectomy (VRT) with laparoscopic pelvic lymphadenectomy for the treatment of stage IA2 to IIA cervical cancer was originall descripted by Dargent [2]. Although this procedure had been proven that it showed acceptable oncological outcomes and the best obstetrics outcomes among fertility preserving methods, it required more training time and a longer learning curve when compared with abdominal trachelectomy [3]. Until 1990's, Ungar and Smith presented abdominal radical trachelectomy (ART) which had been first described by Aburel in 1956 [4]. The procedure's radicality has been proven more efficiently than the vaginal approach; additionally, it can be comparable to that of the standard type C Querleu-Morrow hysterectomy [5]. The ART has shorter learning curve comparing to VRT; therefore, it is more broadly approached by worldwide surgeons. Moreover, it could be used for larger tumors than VRT due to larger radicality. The five – year survival rate of highly selected with early – stage cervical cancer as eligible for

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radical trachelectomy was above 90%. Therefore, it has become the most frequently used radical trachelectomy approach in cervical cancer [3].

Before this report, ART has never been performed in Viet Nam. Our series of VRT were the first cases performed in Viet Nam. We had analyzed the patient selection, perioperative complications as well as the rates of disease – free survival and obstetric outcomes and report them previously. All women were recommended to postpone a pregnancy for a minimum of 6 months postoperatively. In this article, we would like to announce one case of successful pregnancy postoperatively.

Case report

A 37-year-old multiparous woman with PARA 2002 was firstly diagnosed cervical intraepithelial neoplasm 3 (CIN 3). She was performed cervical conization. The final pathology documented an invasive squamous cell carcinoma of the cervix 0.5 cm in diameter and 6 mm in depth with lymphovascular space invasive (LVSI) positive. Histologically, she was diagnosed with cervical cancer stage IB1. The patient was counseled that radical hysterectomy with pelvic lymphadentectomy will be the best treatment option. However, because of personal reason, she has the intense desire to preserve fertility. Therefore, an abdominal radical trachelectomy following pelvic lymph node dissection was performed. A prophylactic cerclage using nonabsorbable suture was placed into the lower remain segment of the uterus.

She had natural conception about six months postoperatively. During pregnancy period, patient had preterm labor two times. To prevent the preterm birth, patient was placed cervical Hodge 2 pessary. When gestation was 35 weeks, women had ruptured membrane; therefore, the Caesarean section was undergone after baby's lung maturation. The heathy baby boy weighing 2.100g was born on 04/04/2021.

Discussion

The biggest series of ART (n = 172) reported 61 cases of conceiving [6]. Sixty eight percent of patients needed intrauterine insemination (IUI) [6]. Among them, there were 42 women had live births but only six babies were born at full-term [6] with mean gestation age 32.7 weeks [6]. The worried thing was that 33% of pregnant had premature births due to premature rupture of membranes caused by amnionitis and six of them had massive genital bleeding form cervix [6]. Retrograde vaginitis may result in amnionitis. Plante reported that the rate of abortion in second trimester was twice as higher as it in normal women (8.6% vs 4%) [7]. The causes of most cases were retrograde infection and preterm ruptures of membranes [7]. Without protection of cervical mucus plug is also one of the factors related to retrograde infection [8]. Author Shepherd has recommended to take prophylactic antibiotics at 16th and 24th week or screen the infection every two weeks starting from 16th week and to treat with antibiotics if needed [8]. Other authors recommended to use povidone-iodine for feminine wash and place vaginal ulinastatin to protect against genital infection [9].

A case series of 151 patients of ART needed to be treated infertility [10]. Egashira et al reported the incidence of infertility after ART was as high as 73% [11]. The causes of this problem were loss ovarian function, cervical stenosis and Asherman's syndrome [11]. Dissection uterine arteries and ovarian blood vessels injury were supposed to related to above matters [11]. Therefore, the pregnancy outcomes of ART are worse when compared to VRT. These matters should be discussed detailly with patient preoperatively.

Some authors said that the cerclage in non-pregnancy women is not necessary [12]. Regarding to their opinions, the scar tissue developed on the remaining cervix-isthmus is strong enough to prevent an abortion [4]. The report of Ma et al on 46 patients of VRT concluded that there is no need to place cerclage when performing VRT [13]. However, ESGO guideline in 2018 recommended to place cerclage routinely when performing ART [14]. According to on survey of SGO members showed that 66% of surgeons agreed to place cerclage after ART [15]. All patients in our report were placed cerclage base on ESGO guideline.

All pregnancies are needed to be performed Caesarean section. However, the optimal time for the section is still controversial. Some authors recommended that the 34th week before appearing the first Baxton Hicks contractions was the safest time [16] because the contractions might increase the risk of uterine rupture and postpartum hemorrhage [13]. However, others recommended the best time was the 37th week [13].

In the systemic review including 660 patients underwent ART, there were 175 women who had successful conceiving [17]. Among of them, 66 cases (38%) were dissected uterine arteries [17]. However, the rate of miscarriage and preterm birth were 21% and 12%, respectively [17]. The review of Wethington et al showed that the rate of successful conceiving was about 74% [18]. It has been the best rate among the reports. Generally, the rate of abortion in first, second trimester and miscarriage in third trimester were 10%, 19% and 48%, respectively [18, 19]. In addition, 30% patients need adjuvant radiation which led to infertility [19]. A recent cases series show that although the rate of conceiving was high, the rate of live birth was just about 13% [20].

In conclusion,we have performed 12 ART for patients. One of them had experienced pregnancy with rate 8.3%. This rate was relative lower than other reports, but it has been the first case of live pregnancy following ART announced in Viet Nam. Abdominal radical trachelectomy with pelvic lymphadenectomy is a feasible operation for selected women with early-stage cervical cancer who desire to preserve reproductive function.

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