Introduction

Cancer is a main leading cause of death among females in economically developing countries. Cervical cancer is the third most common cancer in the world, with 2.3 million prevalent cases and 510,000 incident cases each year. Annually, 288,000 women die of cervical cancer and 80% of these deaths occur in low-resource countries [1-3]. Cervical cancer is a treatable condition, and there is a good chance of cure if it is found and treated in the early or precancerous stages [4-6]. Many women with cervical cancer are in their reproductive years. Advice regarding options for fertility preservation for women with early stage cervical cancer is available from physicians who are experts in reproductive endocrinology and infertility, in conjunction with a gynecologic oncologist [7-10]. The objective is early detection and management of cervical cancer to preserve the fertility in reproductive woman.

Options for treatment of early stage cervical cancer include cone biopsy, hysterectomy, and radiation and chemotherapy. Future pregnancies are not possible after hysterectomy or radiation therapy. Some women with early stage cervical cancer with no spread to other organs or lymph nodes who wish to carry a pregnancy after cervical cancer treatment are eligible for less aggressive forms of treatment [7, 9].

Treatments that allow a woman to carry a pregnancy at a later time include the following:

1. Cervical Conization: is defined as excision of a cone-shaped or cylindrical wedge from the cervix uteri that includes the transformation zone and all or a portion of the endocervical canal. It is used for the definitive diagnosis of squamous or glandular intraepithelial lesions, for excluding microinvasive carcinomas, and for conservative treatment of cervical intraepithelial neoplasia (CIN) [11].
2. **Radical trachelectomy**: removal of the cervix and surrounding tissues, but not the uterus, along with the removal of the lymph nodes in the pelvis. Trachelectomy may be done through an incision in the vagina or abdomen, depending upon the surgeon’s preference. The cervix and upper portion of the vagina may be completely or partially removed, depending upon the size and depth of the cancer. A permanent purse-string (cerclage) is placed at the lower end of the uterus or remaining cervix [12].

3. **Lymphadenectomy**: is surgical removal of lymph nodes within the pelvis is performed to be sure that the cancer has not spread; before trachelectomy begins. The nodes may be removed through an incision in the abdomen (if an abdominal incision is made for the trachelectomy), which allows the physician to see the nodes directly. Alternately, the nodes are removed with the assistance of a laparoscope if the trachelectomy is done vaginally. If any nodes are found to contain cancer cells, trachelectomy is not performed, and more aggressive therapy

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**Figure 2**: Radical trachelectomy

**Figure 3**: The green dots indicate the location of lymph nodes, which are found throughout the body.
(radical hysterectomy or chemoradiotherapy) is usually recommended.

**Post Procedure Education**

- The woman should avoid sexual intercourse, not place anything in the vagina, or take a bath or swim for four to six weeks (showers are fine)

- Some bleeding is expected for approximately one week, although it should not be heavy.

- If bleeding becomes heavy (e.g., soaks a pad in less than an hour) or continues for more than one week, the woman should contact her healthcare provider.

- Follow up examinations and testing is recommended to ensure that there is no evidence of cervical cancer.

**Pregnancy after Cervical Cancer Treatment**

Most women are advised to wait six to 12 months after conization or trachelectomy before attempting to become pregnant to allow the tissue to heal fully.

**Infertility:** There is an increased risk of difficulty in becoming pregnant if the cervix or lower uterus becomes scarred or narrowed as a result of the conization or radical trachelectomy. This could potentially prevent sperm from entering the uterus. This can usually be overcome with an infertility treatment, such as intrauterine insemination (IUI), following attempts at dilating the cervical opening. With IUI, a small catheter is used to deliver sperm directly into the uterus [13-15].

**Cervical insufficiency:** Cervical insufficiency (cervical incompetence) is defined by the American College of Obstetricians and Gynecologists (ACOG) as the inability of the uterine cervix to retain a pregnancy in the second trimester, in the absence of uterine contractions. It occurs when the cervix opens or thins earlier than normal during pregnancy. This can lead to miscarriage or preterm delivery (when delivery occurs before 37 weeks of pregnancy). Women who have had cervical conization or radical trachelectomy may be at an increased risk of cervical insufficiency. For these reasons, women who undergo treatment for cervical cancer are followed closely during pregnancy. This generally involves regular monitoring of the length and opening (dilation) of the cervix [16].

**References**


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