
Cervical Cancer: Concept, Symptoms, Treatment

Cervical Cancer is a tumor that starts in the cells of the cervix. The most common type of cervical cancer causing 80 to 85% of all cases is called squamous cell carcinoma of the cervix or SCC. This type of cancer starts in the thin, flat cells lining the outer surface of the cervix called squamous cells. The cancer can also start in the glandular cells, lining the inside of the cervix. These cells are responsible for producing mucus. This is called adenocarcinoma of the cervix.

Organ System Affected: The cervix part of a woman's reproductive system. It is an opening connecting the vagina to the uterus.
Causes: Human papillomavirus (HPV) has been found to cause about 70% of all cases of cervical cancer. HPV is the most common sexually transmitted infection in the world. It can be contracted through skin contact, vaginal, anal and oral sex.

There are over 100 strains of HPV and of those 40 infect the genitals and reproductive system. The 40 strains can be divided into low risk and high risk HPV types. High risk types (types 16 and 18) can cause cervical cancer. Most people's immune systems will fight off the virus but for those that continue to have the infection, it could lead to cancer [7]. Other risk factors include: Smoking, Infection with human papillomavirus (HPV).

Sexual activity: Giving birth many times, Infection with human immunodeficiency virus (HIV), History of sexually transmitted infections (STIs), Oral contraceptives, Diethylstilbestrol (DES).

Symptoms: Cervical cancer may not cause any signs or symptoms in its early stages. However, early symptoms may include: pale, watery, pink, brown or bloody discharge from the vagina unusually long or heavy periods, bleeding after sexual intercourse, pain during sexual intercourse, foul-smelling discharge from the vagina. Late symptoms develop as the cancer grows larger or spreads to other parts of the body and other organs. These symptoms may include: difficulty urinating, Loss of bladder control.

Hematuria: Blood in the urine, blood in the stool, constipation, leaking of urine or feces from the vagina, pain in the pelvic area or lower back, edema, or swelling, of the legs, anemia (a reduction in the number of healthy red blood cells), weight loss, bone pain, fatigue, loss of appetite [2].
Effect of Symptoms. Emotional Impact: Many women can feel hopeless. Many women may no longer take pleasure in the things they enjoyed before their diagnosis. For example, it is common for women to have a lower sex drive due to their symptoms. May cause a loss of self-esteem. This type of emotional disruption can trigger depression [11].

Diagnosis: Screening Tests: Pap Test: Cells from cervix are examined under a microscope to determine if the cells are cancerous or abnormal.
Who should be Screened: Starting at age 21, women who are or have been sexually active have a Pap test every 3 years. Regular screening should continue until at least age 70 or when advised to stop. Pap tests can stop at the age of 70 if a woman has had 3 or more normal tests in the past 10 years.

Benefits of the Pap Test: Early detection of abnormal precancerous or cancerous cells in the cervix.
Risk: Discomfort, False negative.

HPV Test: Sample from the cervix or from the fluid used during a Pap smear is tested to determine if HPV is present. The HPV test can specify the presence of the types of HPV that can cause cancer.

Benefits of HPV test: Early detection of infection of high risk HPV types This can expedite further testing to confirm the diagnosis

Risks: False positive or negative which can cause stress and anxiety in the patient Cost not covered by government Discomfort [5] **Pap Tests and HPV tests:** These are screening tests and the first steps in diagnosing cervical cancer Most people do not pay for the HPV test and only have a Pap test If the Pap test is sequentially abnormal, indicates a high grade change or the patient decides to have an HPV test and it indicates a high-risk HPV type a second testing is done to confirm the diagnosis. This is called a colposcopy

Colposcopy: A gynecologist specializing in colposcopy uses a microscope to visually magnify the cervix and look for areas of abnormal cells. During a colposcopy they will usually do a biopsy. [8] **Biopsy:** A small amount of tissue from the cervix is removed and examined for abnormal

Benefit: Definitive diagnosis [5] **Risk:** Bleeding Infection Pain [5] **Treatments:** Treatments for cervical cancer will depend on: The stage Your age Your general health Whether or not you want to become pregnant in the future Personal preference

Western Treatments can include: Surgery Chemotherapy. Radiation therapy [2] The three main types of surgery include: **Trachelectomy:** Cervix, surrounding tissue and upper part of the vagina are removed **Hysterectomy:** Cervix and womb are removed. The ovaries and fallopian tubes may also be removed **Pelvic exenteration:** Cervix, vagina, womb, ovaries, fallopian tubes, bladder and rectum may all be removed

Risks of Surgery: Infections, Vaginal bleeding. Bleeding in your pelvis or abdomen Bladder or bowel problems Blood clots Numbness at the top of legs Swelling in your legs Swelling or lump in your abdomen (lymphocele)

Death [3] Cost: According to the Ottawa Hospital, a surgical operation such as an open hysterectomy costs about \$7,241 [12] **Effectiveness:** The effectiveness of the treatment correlates to the stage at diagnosis Later stage disease results in more aggressive surgery and is more likely to require adjuvant therapy such as chemotherapy and radiation therapy The effectiveness of the treatments also depends on the patient's stage at diagnosis

Alternative Treatments: Alternative cancer treatments have not been proven to cure cancer. However, they may help cope with symptoms caused by cancer

Acupuncture. Tiny needles are inserted into your skin at precise points. Acupuncture is done to help with relieving nausea or certain types of pain in people with cancer

Cost: On average, in Ontario routine visits cost about \$50 to \$70 [6]

Risks and Effectiveness: Studies show acupuncture may be effective in relieving some of the symptoms caused by cervical cancer [6] However, if a person takes an alternative therapy

instead of standard treatment, the cancer may keep growing and over time, the standard treatment options once available may no longer work [1]Why cancer treatments may not work: Cancer treatments can keep cancer from spreading and even cure early stage cancer for many people. However, sometimes treatment stops working or the cancer reaches a stage where it cannot be treated. This is called advanced cancer.

Effects on quality of life:Many women need time to recover after surgery. For example after a hysterectomy most women need around 6-12 weeks to recoverMany women will not be able to drive for 3-8 weeks after surgery After surgery most women need 8-12 weeks off of work which can cause financial stressFatigue from the chemotherapy and radiation Women may need to take a break from normal activities for a while PreventionHPV vaccines protect against HPV infections that cause nearly all cases of cervical cancer.

Who can Get the Vaccine?

There are two HPV vaccines available in CanadaGovernment programs offer Gardasil free to young girls and in some provinces boys.The Gardasil vaccine protects against 9 HPV types, two of which are responsible for the majority of cervical cancer cases (types 16 and 18) [6]How it Works:The vaccine stimulates the body to produce antibodies that will bind to the HPV virus and prevent it from infecting other cells or reproducing more abnormal cells.

The vaccines provide about 100% protection against HPV infections

Screening Tests:Pap Tests and HPV tests detect early cervical cancer cell changes to prevent cancer. Other ways of prevention:Using barrier devices during sexual activitiesPostponing unprotected vaginal sexual activity until age 18 to allow the cervix to fully matureNot smokingGetting follow-up testing and treatment as advised by your healthcare provider

PrognosisStage I: The cancer has spread from the cervix lining into the deeper tissue but is still just found in the uterus. Survival rate: 80% - 93%Stage II: The cancer has spread beyond the cervix to nearby areas, such as the vagina or tissue near the cervix, but it is still inside the pelvic area. Survival rate: 58% - 63%Stage III: The

tumor has spread to the pelvic wall and the lower vagina. Can cause swelling of the kidney, or stop kidney from functioning. Survival rate: 32% - 35% Stage IVA: The cancer has spread to the bladder or rectum and to other parts of the body. Survival rate: 15% - 16% or fewer

Recurrence Rate: 10-20% recurrence rate for earlier stages of cervical cancer 70% recurrence rate for more advanced stages If recurrence occurs, prognosis is poor

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