



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

CERVICAL CANCER -An Overview

Veerabhadrapppa G Mendagudli^{1*}, Shivaleela S Sarawad²

¹Associate Professor, Dr. Vithalrao Vikhe Patil Foundation's College of Nursing, Ahmednagar, Maharashtra, India

²Assistant Professor, Dr. Vithalrao Vikhe Patil Foundation's College of Nursing, Ahmednagar, Maharashtra, India

Abstract

Cervical cancer develops in a woman's cervix (the entrance to the uterus from the vagina).

Almost all cervical cancer cases (99%) are linked to infection with high-risk human papillomaviruses (HPV), an extremely common virus transmitted through sexual contact.

Although most infections with HPV resolve spontaneously and cause no symptoms, persistent infection can cause cervical cancer in women.

Cervical cancer is the fourth most common cancer in women.

In 2018, an estimated 570 000 women were diagnosed with cervical cancer worldwide and about 311 000 women died from the disease.

In a study report in India 122,844 women suffered with cervical cancer & 67,477 patients died. In India About 432.2millions of women under the age of 15 years old suffering from developing cancer¹.

Keywords: Cervical cancer, women, reproductive age group, Human papillomavirus Treatment, Vaccine, Prevention, Sexually transmitted disease.

Introduction:

Cancer of cervix is significant public problem globally, especially in developing countries where it is the most common in women. Developing countries bear disproportionate burden of the disease, experiencing age standardized mortality rate that are twice those experienced in develop countries. Every year approximately half a million new cases of the cervix are reported globally.80% of which occurs developing countries, where the disease is also the leading cause of cancer related death among women.

The huge disparities in morbidity and mortality between developed and developing countries exist largely because over the last few decades².

The global cervical cancer burden is disproportionately high in low and middle-income countries, where 83% of all new cases and 85% of cervical cancer deaths occur . India accounts for nearly one-fourth of the world's cervical cancer deaths, with 60,078 deaths and 96,922 new cases in 2018.This largely preventable disease is the second most common cause of cancer mortality among Indian women .Through Human Papilloma Virus (HPV) vaccination and screening

campaigns, higher income countries have successfully reduced their burden of cervical cancer by as much as 65% over four decades. Vaccination of adolescents against HPV 16 and HPV 18, which cause approximately 70% of cervical cancers, can prevent the majority of cervical cancer cases. Additionally, frequent screening allows for early detection and removal of precancerous lesions¹.

Meaning Of Cancer: Cancer occurs when abnormal rapid growth of cells. Normally cells divide to produce more cells only when the body needs them. If cells keep dividing when new cells are not needed, a mass of tissue forms. This mass of extra tissue is called cancerous growth or tumour; it can be benign or malignant. Benign tumours are not cancerous. They are usually removed and in most cases they do not come back. Benign tumours are not a threat to life. Malignant tumour constitutes cancer. These cells can enter and damage tissue and organs near tumour.

The Cervix: The cervix is the lowest portion of the uterus. It protrudes down into the vagina. The cervix has an opening this opening is normally very narrow, it opens to about four inches (10 cm) across during labour to allow for child birth. The cells in the vaginal part of the cervix are called "squamous" cells. They are resistant to abrasion and heal quickly after injury. In contrast, the cells deeper in the cervix are called "columnar" cells which form glands. These glands produce mucus. The area of change from the squamous to columnar cells is called the "squamous columnar junction" and is the area of the cervix where cancer most commonly arises.

Meaning Of Cervical Cancer: Cervical cancer is due to the abnormal growth of cancer cells in cervix that have ability to invade or spread to other parts of the body.

Incidence Of Cervical Cancer:

Cervical cancer is the second most common cancer among women worldwide following breast cancer. Cervical cancer is the most common cancer among women in India, with approximately 71,600 new cases occurring each year - as stated by Kidwai Memorial Institute of Oncology.

The overall incidence of 23.5/1,00,000 has been observed in 2008. In general, cervical cancer has been on the increase in the United States and more in developing countries³.

Causes Or Increased Risk For Cervical Cancer:

1. **HPV (human papilloma virus):** Is a leading cause of cervical cancer. Some types particularly HPV 16 and HPV 18 are found in over 99% of cervical cancer. These are known as "High Risk" type. Other types (HPV 6 & HPV 11) cause genital warts.
2. **Intraepithelial neoplasia.**
3. **Early marriage:** Women married before 20 years is an important cause. Incidence of cervical cancer shows a decline if the age of marriage increases.
4. **Early child birth:** Giving birth to a child before 20 years is considered a risk, because the reproductive organs are yet to fully develop at this age. Getting pregnant and delivering a child puts an enormous strain on the cervix, which acts as a risk for a woman getting cancer cervix.
5. **Giving birth to more children (multiparity):** With repeated childbirth the cervix undergoes cellular changes for pregnancy and delivery. More the children, more is the risk for cancer cervix.
6. **Sexually transmitted viruses:** Viruses like Human Papilloma Virus (HPV), especially Type 16, 18 and 33. These are found in about 50% of patients.

7. **History of genital infections in men:** The signs are itching, genital warts and wound in the private area.
8. **History of genital infections in women:** History of vaginal discharge, boils, ulcers over the genital area, burning in micturition or history of warts. Poor genital hygiene. The cervical infection and the above conditions act as an irritant for the initiation of cancer cervix.
9. **Having cervicitis:** The repeated infection of uterine cervix acts as an irritant. Later it can become a reason for developing cancer cervix.
10. **Poor menstrual hygiene.** (i) Use of unclean cloth for absorption of menstrual blood.(ii) Not washing the perineum before changing the sanitary pad.(iii)Not changing the pad as and when required.(iv) Sexual contact during menstruation.
11. **Having multiple sex partners:** The risk of cervical cancer is influenced not only by woman's sexual behavior, but also by male behavior. It was observed that risk of cervical cancer was about 3 times higher in women whose husbands reported sexual contact with more than one woman during their lives other than their wife.
12. **Low social and financial status:** This may reflect more sexual promiscuity or inability to get proper screening and treatment for the disease. 13. **Immune deficiency diseases like AIDS:** In fact, the development of cervical cancer in a HIV positive patient is sufficient to re- classify them as full-blown AIDS. Furthermore, getting immune-system suppressing drugs (to avoid rejecting a newly transplanted organ) also increases the risk, especially in patients with HPV.
13. **Contraceptive pills:** Women who have used oral contraceptives for 5 to 9 years have about three times the incidence of invasive cancer and those who used then for 10 years or longer have about four times the risk⁴.
14. **The 35-45 age groups of women** are more prone to get cervical cancer⁵.

Symptoms Of Cervical Cancer:

Early cervical cancer commonly has no symptoms, which is why screening is necessary to detect it. The most common actual symptoms are:

Vaginal bleeding: The surface of the cervix is very soft and tumours bleed easily. In fact, if a woman has new vaginal bleeding after menopause, the total chance of cervical cancer is about 30%. In pre-menstrual women, a change is often seen in bleeding during periods, heavy menstrual bleeding, spotting bleeding periods or after sexual intercourse

Vaginal discharge: White or often yellowish foul

Smelling discharge that may occur with particularly advanced or necrotic cancer.

Cervical pain: Cervical pain noted when a tampon/finger is inserted not the vagina. On physical examination, this cervical motion tenderness is suspicious for infection or cancer. With more advanced disease, there can be general pelvic pain.

Urinary symptoms: Urinary symptoms are seen with advancing disease as the tumour invades into the vagina and eventually can close off the kidneys' urinary drainage. This is called uraemia and is the most common cause of death from cervical cancer.

Signs of spread to other areas of the body include : lymph gland enlargement in the groin or collar bone are or the left armpit. Advanced spread may give bone, liver, lung, bowel or brain abnormalities.

The **late symptoms:** can be weight loss, anaemia and body lethargy.

Complications: (i) Haemorrhage. (ii) Pyelitis, Pyelonephritis, and Hydronephrosis (iii) Frequency of Urination⁷

Diagnostic Evaluation: -

- Pap smear test: The Papanicolaou test most commonly used Pap smear test, it is used to screen for cervical cancer. The test look for abnormal changes in the cell of cervix that could indicate a pre- cancerous condition or cervical cancer identify the high risk women. Cervical screening should being no later than 21 years of age.
- Biopsy: A small piece of tissue will be taken. This patient will be anesthetized for this.
- Colposcopy: A speculum is placed to hold the vagina open and the gynaecologist looks at the cervix through a colposcope a lighted magnifying instrument specifically designed for examining the tissue of the vagina and the cervix.
- Cone biopsy: A small cone shaped section of the abnormal tissue is taken from the cervix for examination under a microscope.
- LLETZ: A diathermy bis used to remove abnormal tissue. The tissue is sent to lab to be checked
- Blood test : (Number of Blood cells).
- Computerised tomography scan: 3-D cross – sectional picture of the part of the body and displays it on the screen. The patient will have to barium drink beforehand. The barium appears white on the scan. Just before the scan tampon may be placed into the vagina, and barium liquid may be placed into the rectum. The whole scans takes from 10- 30 minutes.
- MRI: Magnetic Resonance Imaging scan (By using the high MRI with a special vaginal coil, a technique to measure the movement of water within the tissue, the researchers may be able to identify cervical cancer in its early stages.)
- Pelvic ultra sound: This is a device that uses high frequency sound waves which create an image on a monitor of the target area. The patient will be asked to drink plenty of fluids beforehand so that the bladder is full and a clear picture can be viewed. A trans vaginal ultrasound device may be inserted into the vagina, or an external device may be replaced next to the stomach⁸.

Treatment:

1. Chemotherapy drugs.
2. Radiation therapy.
3. LEEP (LLETZ), also called large loop excision of the transformation zone
4. Cryosurgery or laser surgery: During cryosurgery the doctor uses a metal probe coated with liquid nitrogen to kill the abnormal cells by freezing In laser surgery, the doctor uses a focused beam of high-energy light to vapourise (burn off) the abnormal tissue.
5. Surgery: Hysterectomy – surgical removal of the uterus and cervix is both diagnostic and therapeutic for tumours that are too large to be completely removed with a “conisation.”

Preventive Measures for Cervical Cancer:

1. **Primary prevention:** It involves identifying the causal factor and eliminating those from exerting their effects. These are easy to enumerate but difficult to implement in practice.

A. Identifying High risk female: (i) Women with high risk HPV infection (ii) Early sexual intercourse. (iii) Early age of first pregnancy. (iv) Too many Births or too frequent births. (v) Low socio –economic status. (vi) Poor maintenance of local hygiene.

B. Prophylactic HPV vaccine: (i) It is approved for all girls (12 to 18 yrs) and all women (16 to 25 yrs.). (ii) The vaccine is Inj. Gardasil and Inj. Cervarix from age group 9-25 yrs. It provides a best protection in women who have not been exposed to Human Papilloma Virus (HPV). (iii) Given in 3 doses over the time of 6 months. (iv) Dose 1st: That date which a Doctor or Health care Professional choose. Dose 2nd: After 2 months of 1st dose. Dose 3rd: After 6 months of 1st dose. (v) It's an Intramuscular (I.M) Injection given in deltoid muscle of upper arm.

C. Identifying high risk males: (i) Multiple sexual partners.

D. Avoid smoking: Cigarettes increase the risk of developing many cancers, including cervical cancer. Smoking combined with an HPV infection can actually accelerate cervical dysplasia.

E. Diet: Take vitamin A and vitamin C rich foods in daily diet.

F. If you have any following symptoms: immediate contact doctor (i) Spotting. (ii) Irregular menstruation. (iii) Increased menstrual bleeding. (iv) Post menstrual bleeding. (v) Post coital bleeding.

2. Secondary prevention: It involves identifying and treating the disease earlier in the more treatable stage. This is done screening procedure i.e. (i) Down staging screening. (ii) Pap smear test¹.

References:

1. Kumar, H., Singh, V. A., Isha, M., Mehta, S., Garg, R., & Shinu, P. (2018). Line Immunoassay: A Rapid Test for Screening TORCH Complex in Antenatal Patients with Bad Obstetric History. *Mymensingh medical journal: MMJ*, 27(3), 641-644.
2. Swati Jadhav et al. Review on Cervical cancer. *Current Trends in Pharmacy and Pharmaceutical Chemistry*, 2(2), 2020, 39-44.
3. Bathija GV, Mallesh S, Gajula M. A study on awareness of cervical cancer among women of reproductive age group in urban slums of old Hubli, Karnataka, India. *Int J Community Med Public Health* 2016;3:2579-83.
4. Ali F, Kuelker R, Wassie B. Understanding cervical cancer in the context of developing countries. *Ann Trop Med Public Health*. 2012; 5(1): 3. DOI: <https://doi.org/10.4103/1755-6783.92871>
5. Ferlay J, Soerjomataram I, Dikshit R, et al. Cancer incidence and mortality worldwide: sources, methods and major patterns in GLOBOCAN 2012. *Int J Cancer*. 2015; 136(5): E359–386. DOI: <https://doi.org/10.1002/ijc.29210>
6. Bruni L, Albero G, Serrano B, et al. Human Papillomavirus and Related Diseases Report. *Information Centre on HPV and Cancer (HPV Information Centre)*; 2019. <https://hpvcentre.net/statistics/reports/XWX.pdf>.
7. https://www.who.int/health-topics/cervical-cancer#tab=tab_1