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Cervical Cancer: A Review on Young Women

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ABSTRACT

Cervical cancer among young women refers to the occurrence of cervical cancer in individuals who are in their younger age groups, typically ranging from late teenage years to their 20s or early 30s. While cervical cancer is more commonly diagnosed in older women, it can still affect young women, albeit at a lower frequency. Cervical cancer is a significant concern among young women, although it is more commonly diagnosed in older age groups. While the overall risk is relatively low, several important factors should be considered. Human papillomavirus (HPV) infection, primarily transmitted through sexual activity, is the primary risk factor. Engaging in sexual activity at an early age or having multiple sexual partners can increase the risk. Regular cervical cancer screening, such as Pap smears and HPV testing, is vital for early detection and intervention. Vaccination against HPV is highly recommended for young women to prevent infection and reduce the risk of cervical cancer. Promoting awareness, education, and safe sexual practices are crucial to prevention. Overall, young women should prioritize their sexual health, receive appropriate vaccinations and screenings, and seek medical advice for any concerns or symptoms to ensure early detection and effective management of cervical cancer.

Keywords: cervical cancer, HPV, diagnosis, prevention, risk factors

INTRODUCTION

Cervical cancer is a sexually transmitted disease caused by the human papillomavirus (HPV), especially HPV-16 and -18. Cervical cancer is cancer that starts in the cells of the cervix. The cervix is the lower, narrow end of the uterus. The cervix connects the uterus to the vagina. Cervical cancer usually develops slowly over time. Before cancer appears in the cervix, the cells of the cervix go through changes known as dysplasia, in which abnormal cells begin to appear in the cervical tissue. Over time, if not destroyed or removed, the abnormal cells may become cancer cells and start to grow and spread more deeply into the cervix and to surrounding areas [3].Papillomaviruses are pervasive, have been found in a wide range of species in addition to humans, and are unique to the hosts they infect. If treatment is delayed, HPV infection can occasionally develop into a premalignant lesion that becomes more advanced and aggressive. Numerous variables were found to be associated with the awareness of cervical cancer. More significant than the correlation between smoking and lung cancer is the strength of the connection between HPV and cervical squamous cell carcinoma. Based on

genetic variations revealed by DNA sequence data, more than 200 different varieties of HPV have been detected. HPV is linked to various clinical conditions, from benign lesions to cancer. Consistent infections can cause lesions occurring before cancer and invasive cancer in a small percentage of women, even though most conditions go away without causing harm [4].

Asymptomatic lesions seen during routine cervical cancer screenings range in size from those to significant lesions on the vulva, vagina, cervix, and specific extra genital locations. Varies with age, location, and gestational age, its frequency in pregnancy ranges from 5.5% to 65% (increasing with gestational age). Pregnancy-related infections have been linked to unfavourable effects, including spontaneous miscarriage, premature delivery, placental abnormalities, and fetal development limitation. But there is a variety of data to support these negative impacts [5]. Promiscuous sexual behaviour, reproductive variables such as genital cleanliness, early menarche, the window between menarche and the first sexual encounter, young marriage age, high parity, other sexually transmitted infections, and smoking are among the other risk factors for cervical cancer. After starting sexual activity in their 20s, women experience the highest rate of HPV infection. Typically, early invasive cervical cancer develops after a chronic HPV infection for 10 years. Human immunodeficiency virus (HIV) infection increases the likelihood of persistent human papillomavirus (HPV) infection, which raises the incidence of intraepithelial lesions and raises the risk of invasive cervical cancer in HIV-positive individuals [6]. The incidence and mortality rates of cervical cancer have declined owing to population-based cervical cancer screening programs and anti-human papillomavirus (HPV) vaccines. However, according to epidemiological studies, the incidence of cervical cancer in young women is increasing the incidence of cervical cancer in women aged 20–29 years increased annually by 10.3% between 2000 and 2009 [7]. Cervical cancer has an enormous socioeconomic impact on patients in terms of social discrimination, loss of body image, loss of sexual functioning, loss of femininity, loss of income, financial distress, work and employment challenges [8].

Risk factors for cervical cancer among young women

1. Human papillomavirus (HPV) infection

Infection by the human papillomavirus (HPV) is the most important risk factor for cervical cancer. HPV is a group of more than 150 related viruses. Some of them cause a type of growth called papillomas, which are more commonly known as warts. HPV can infect cells on the surface of the skin, and those lining the genitals, anus, mouth and throat, but not the blood or internal organs such as the heart or lungs. HPV can spread from one person to another during skin-to-skin contact. One way HPV spreads is through sexual activity, including vaginal, anal, and even oral sex. Different types of HPV cause warts on different parts of the body. Some cause common warts on the hands and feet; others tend to cause warts on the lips or tongue. Certain types of HPV may cause warts on or around the female and male genital organs and in the anal area. These are called low-risk types of HPV because they are seldom linked to cancer [9].

2. Sexual history

Several factors related to your sexual history can increase the risk of cervical cancer. The risk is most likely affected by increasing the chances of exposure to HPV. Becoming sexually active at a young age (especially younger than 18 years old). Or having many sexual partners. And having one partner who is considered high risk[10].

3. Smoking

When someone smokes, they and those around them are exposed to many cancer-causing chemicals that affect organs other than the lungs. These harmful substances are absorbed through the lungs and carried in the bloodstream throughout the body. Women who smoke are about twice as likely as those who don't smoke to get cervical cancer. Tobacco by-products have been found in the cervical mucus of women who smoke. Researchers believe that these substances damage the DNA of cervix cells and may contribute to the development of cervical cancer. Smoking also makes the immune system less effective in fighting HPV infections [11].

4. Having a weakened immune system

Human immunodeficiency virus (HIV), the virus that causes AIDS, weakens the immune system and puts people at higher risk for HPV infections. The immune system is important in destroying cancer cells and slowing their growth and spread. In women with HIV, a cervical pre-cancer might develop into an invasive cancer faster than it normally would. Another group of women at risk for cervical cancer are those taking drugs to suppress their immune response, such as those being treated for an autoimmune disease or those who have had an organ transplant [12].

5. Chlamydia infection

Chlamydia is a relatively common kind of bacteria that can infect the reproductive system. It is spread by sexual contact. Women who are infected with chlamydia often have no symptoms and they may not know that they are infected at all unless they are tested during a pelvic exam. Chlamydia infection can cause pelvic inflammation, leading to infertility. Some studies have seen a higher risk of cervical cancer in women whose blood tests and

cervical mucus showed evidence of past or current chlamydia infection. Certain studies show that the Chlamydia bacteria may help HPV grow and live on in the cervix which may increase the risk of cervical cancer [13].

6. Long-term use of oral contraceptives

There is evidence that taking oral contraceptives (OCs) for a long time increases the risk of cancer of the cervix. Research suggests that the risk of cervical cancer goes up the longer a woman takes OCs, but the risk goes back down again after the OCs are stopped, and returns to normal many years after stopping. A woman and her doctor should discuss whether the benefits of using OCs outweigh the potential risks [14].

7. Having multiple full-term pregnancies

Women who have had 3 or more full-term pregnancies have an increased risk of developing cervical cancer. It is thought this is probably due to the increased exposure to HPV infection with sexual activity. Also, studies have pointed to hormonal changes during pregnancy as possibly making women more susceptible to HPV infection or cancer growth. Another thought is that pregnant women might have weaker immune systems, allowing for HPV infection and cancer growth [15].

8. Young age at first full-term pregnancy

Women who were younger than 20 years when they had their first full-term pregnancy are more likely to get cervical cancer later in life than women who waited to get pregnant until they were 25 years or older [16].

Diagnosis of cervical cancer among young women

Medical History: The doctor will gather information about the patient's medical history, including any symptoms they may be experiencing, family history of cancer, and any relevant risk factors such as human papillomavirus (HPV) infection or a weakened immune system [17].

Physical Examination: A physical examination is performed to assess the overall health of the patient. This may involve a pelvic examination to check for any abnormalities in the cervix [18].

Pap Smear Test: A Pap smear, also known as a Pap test, is a screening test used to detect abnormal cells in the cervix. It involves collecting a sample of cells from the cervix and examining them under a microscope. If abnormal cells are detected, further diagnostic tests may be recommended [7].

Colposcopy: If the Pap smear results are abnormal, the doctor may perform a colposcopy. During this procedure, a colposcope (a magnifying instrument) is used to closely examine the cervix for any signs of abnormality. If any suspicious areas are identified, a biopsy may be performed [19].

Biopsy: A biopsy involves taking a small sample of tissue from the cervix for further examination. The sample is sent to a laboratory where it is analysed by a pathologist to determine if cancerous or precancerous changes are present [20].

HPV Testing: HPV testing may be conducted as part of the diagnostic process. This test checks for the presence of high-risk types of HPV that are known to cause cervical cancer [21].

Imaging Tests: Imaging tests such as ultrasound, CT scan, or MRI may be recommended to assess the extent of the cancer, particularly if there is suspicion of advanced disease or spread to other areas [22].

Prevention for cervical cancer among young women

Vaccination: The HPV vaccine is highly effective in preventing cervical cancer. It is recommended for girls and boys between the ages of 9 and 14, but can be given up to age 45. Vaccination before becoming sexually active provides the best protection. The vaccine protects against the most common HPV types that cause cervical cancer [23].

Regular Pap tests (Pap smears): Pap tests are important for detecting any precancerous or abnormal changes in the cervix. It is recommended that women begin regular Pap tests at the age of 21, or earlier if they are sexually active before that age. The frequency of Pap tests may vary based on individual risk factors, but it is generally recommended every three years for women aged 21-29 and every five years with the addition of HPV testing for women aged 30-65 [24].

Safe sexual practices: Practicing safe sex by using condoms and limiting the number of sexual partners can reduce the risk of HPV infection. However, it's important to note that condoms do not provide full protection against HPV, as the virus can infect areas not covered by a condom [25].

Regular health check-ups: Regular visits to a healthcare provider are essential for overall health, including reproductive health. It allows for the early detection of any abnormalities and provides an opportunity to discuss any concerns or questions related to cervical cancer prevention [26].

Smoking cessation: Smoking weakens the immune system and can increase the risk of cervical cancer. Quitting smoking or avoiding exposure to second hand smoke can significantly lower the risk [27].

Health education and awareness: Educating oneself about cervical cancer, HPV, and its prevention is crucial. This includes understanding the importance of vaccination, regular screenings, and adopting healthy lifestyle habits [28-30].

CONCLUSION

Cervical cancer can occur in young women, and early detection plays a crucial role in successful treatment and improved outcomes. Regular cervical cancer screenings, including Pap smears and HPV testing, are recommended for all women, regardless of age. It is important for young women to be aware of the risk factors associated with cervical cancer, such as HPV infection, and to seek medical attention if they experience any symptoms or abnormalities. By maintaining regular check-ups and following recommended screening guidelines, young women can reduce their risk of developing cervical cancer and increase the likelihood of early detection and effective treatment if the disease does occur. Regular screenings and vaccination can significantly reduce the risk of developing cervical cancer or detect it early when it is most treatable.

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