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Human Papillomavirus (HPV) and Cervical Cancer

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Introduction: Human Papillomavirus, otherwise known as HPV, is one of the most commonly sexually transmitted infections and certain strains have a strong correlation to the development of cervical cancer in women (Anzumta et al., 2015). Preventative actions are available to women, such as pop pap smear screening, which can allow for early identification and treatment of abnormalities. As an advanced practicing nurse, it is essential to provide education to women about HPV and the importance of routine screenings to avoid potential progression to cervical cancer.

Underlying Pathophysiology: According to the American Cancer Society (2019), “HPV is a large group of related viruses. Each virus in the group is given a number, which is called an HPV type.” The U.S. Food & Drug Administration (2019) reports, “There are over 100 different kinds of HPV and not all of them cause health problems... Most problems are caused by types 6, 11, 16, or 18.” HPV16 is the most common genotype detected in invasive cervical cancer worldwide (Osman et al., 2018, p. 41).

There are two major categories of HPV, low-risk HPV and high-risk HPV. The ACS (2019) discusses low-risk HPV and HPV16. “HPV16 can cause warts (papillomas) or on around the genitals and area of both men and women. Women may also have warts on the cervix and in the vagina. Because these HPV types rarely cause cancer, they are called ‘low-risk’ viruses.”

“Other types of HPV are called ‘high-risk’ because they can cause cancer in both men and women. Doctors worry mainly about the cell changes and pre-cancers linked to these types, because they’re more likely to grow into cancers over time. Common high-risk types include HPV 16 and 18. (American Cancer Society, 2019, p. 3).” HPV is a very common type of infection. The bodies of most individuals who acquire HPV do not clear the virus off the infection on their own. However, it is when the virus doesn’t improve that the occurrence of a cancer is concern.

Some facts about HPV and cervical cancer include:

• As stated by the NCCC (2019), “HPV is spread through skin-to-skin contact, not through an exchange of bodily fluid.”

• The ACS (2019) reports, “HPV16 is a very common virus. Most men and women who have ever had sexual contact will get HPV at some time in their lives.”

• “You cannot get HPV from: toilet seats, hugging or holding hands, swimming pools or hot tubs; sharing food or utensils; or being unclean” (ACS, 2019).

• “Regular screening, with Pap and HPV, will detect virtually all pre-cancerous changes and cervical cancers” (NCCC, 2019).

• “Cervical cancer most commonly takes 10 years to 20 years or more to develop; women who are never sexually active should still have Pap tests” (NCCC, 2019).

• “HPV vaccination could prevent more than 90% of HPV cancers—31,200 cases every year from ever developing” (CDC, 2018).

Signs and Symptoms: “Most HPV infections are subclinical and don’t cause any noticeable symptoms” (Penreka et al., 2015, p. 2) even women with early cervical cancer and pre-cancers typically are asymptomatic.

According to the American Cancer Society (2019), “symptoms often do not begin until the cancer becomes invasive and grows into nearby tissue.” When this occurs, signs and symptoms are:

• Abnormal vaginal bleeding, for example after sexual intercourse, post-menopausal bleeding, or bleeding after sex occurring between menstrual cycles.

• Irregular vaginal bleeding.

• Pain during intercourse.

Treatment:

There is no cure for the virus (HPV) itself. There are treatments for the health problems that HPV can cause, such as genital warts, cervical changes, and cervical cancer (FDA, 2019). Examples include:

• Pap tests – A procedure in which cells are removed from the cervix and can be checked under a microscope for cervical cancer or call changes that may lead to cervical cancer.

• HPV vaccine – “The HPV vaccine is approved for prevention of genital warts, cervical dysplasia, and cervical cancer” (Penreka et al., 2015, p. 4).

• Liquid biopsy – “HPV DNA can be quantitatively detected with the use of ddRNA. This has the potential to provide a clinically useful tumor marker for patients with cervical cancer” (Zhang et al., 2019).

• “Surveillance and estimating the risk of disease relapse” (Chang et al., 2019, p. 37).

Conclusions: To date, Human Papillomavirus (HPV) and cervical cancer have been a serious problem for millions of women worldwide. As an advanced practice nurse, it is critical that nurses understand the pathophysiology in order to properly identify and diagnose abnormalities when they occur. The NCC (2019) writes, “More than 11,000 women in the United States will be diagnosed with cervical cancer each year, and more than 4,000 of women will die. Cervical cancer is the fourth most common type of cancer for women worldwide, but because it develops slowly, it is also one of the most preventable types of cancer.”

With preventative care being the main focus, both providers and patients can seek out educational information and avoid risk factors in hopes of lessening the prevalence of both HPV and cervical cancer among all individuals.