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Human Papillomavirus (HPV) and Cervical Cancer

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

Figure 1: Illustration of cervical cancer progression from normal to cancer

Underlying Pathophysiology:
According to the American Cancer Society (2019), HPVs are 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 levels 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 carcinoma worldwide (Ogunbiyi, 2015). There are two main categories of HPV, low-risk HPV and high-risk HPV. The ACS (2019) discusses low-risk HPV and high-risk HPV. HPV can cause warts (papillomas) or on the genitals and anus of both men and women. Women may also have warts on the cervix and in the vagina. Because these HPVs types rarely cause cancer, they are called ‘low-risk’ viruses.

Figure 2: Illustration of cervical changes from a normal cervix versus a cervix infected with HPV

Significance of Pathophysiology:
Recognizing the pathophysiology of HPV and cervical cancer plays a crucial role in identifying any abnormalities of the cervix and thus, determining the appropriate treatment route. As stated by Singh et al. (2018), “late detection due to noncompliance or inadequate screening options – has been a prevailing problem in developing countries” (p. 233). In countries such as India, as well as the United States, approved HPV vaccinations (i.e. Gardasil and Cervarix) are available and should be encouraged.

Figure 3: Lists the 10 Major HPV Types and their prevalence

Vaccines:
According to the CDC (2018), “HPV vaccination could prevent more than 90% of HPV cancers linked to the 10 HPV types most commonly associated with cervical cancer” (NCCC, 2019). “Regular screening, with Pap and HPV, will detect virtually all precancerous changes and cervical cancers” (NCCC, 2019). “Most men and women who have ever had sexual contact will get HPV at some time in their lives.”

Figure 4: HPV vaccination: Shedding light on the preventative care being used

Conclusions:
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To date, Human Papillomavirus (HPV) and cervical cancer have been a diagnostic concern for many individuals. Due to this, it is critical that the APRN understands the pathophysiology in order to properly identify and diagnose abnormalities when they occur.

Figure 5: HPV vaccination: Shedding light on the preventative care being used

Implications of Nursing Care:
It is important for the nurse practitioner to provide educational information to all patients about HPV and cervical cancer. There seems to be a knowledge gap in terms of how HPV is spread. Patient should be informed of preventative measures including:
- HPV vaccine – which can be used by both males and females and is strongly recommended in preteens and teens
- Pap smears and HPV tests
- Do not smoke
- Limit sexual partners
- Use condoms during sex (CDC, 2018).

Preventative care as a central focus will ultimately assist in lowering overall occurrences of HPV and cervical cancer. As an advanced practice nurse, in order to increase HPV vaccination rates one must assess a patient’s access to services; the cost of vaccination and screening; a client’s education level regarding HPV and cervical cancer; and possible outside factors deterring patients from receiving HPV preventative care.

References:


