EDITORIAL

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Is human papilloma virus vaccination effective for oral cancer?

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On June 20, 2016, the Korean Center for Disease Control and Prevention (KCDC) began offering free human papilloma virus (HPV) vaccination as part of the Korean National Immunization Program.

According to an official publication of the Division of Vaccine Preventable Diseases Control & the National Immunization Program of the KCDC, this HPV vaccination will be offered for 12-year-old girls and is expected to prevent cervical, anogenital, anal, and even oropharyngeal cancer. The program endeavors to increase the national immunization rate of HPV vaccination through free immunization support.

As we already know, HPV is the most common virus of sexual organs, and a continuous infection status can result in precancerous lesions in the utero-cervix, warts, recurrent respiratory papilloma, and several malignancies. This infection is transmitted by direct contact, especially through sexual contact with an infected person. Most HPV infections subside naturally without clinical symptoms, but frequent and continuous infection could be a risk factor of induction of many malignancies in the vulva, uterus, vagina, cervix, penis, anus, skin, or oropharynx. Treatment of HPV infection is not easy, and there is no standardized protocol, with treatment differing according to the entity of HPV disease. Thus, prevention of HPV infection is very important, and bivalent and quadrivalent HPV (qHPV) vaccinations were introduced globally starting in 2006.

There are two U.S. Food and Drug Administration (FDA)-approved cervical cancer vaccines, Gardasil (Merck Co., Rahway, NJ, USA) as a qHPV vaccine and Cervarix (GlaxoSmithKline, Middlesex, UK) as a bivalent HPV (biHPV) vaccine. Both of these vaccines are effective for HPV subtypes 16 and 18, and Gardasil is effective against the two additional subtypes 6 and 11. The biHPV vaccine was approved for development in 1998, received FDA approval in 2009, and is now licensed in more than 100 countries and approved in more than 60 other countries. The qHPV vaccine, also called the Merck vaccine, was developed early and has the same structure as HPV 16, which was used as a main constituent in 1993, and was approved by the FDA in 2006. The side effects of HPV vaccination are regional pain, swelling, redness, urticaria, fever, dysphagia, and muscular pain, but most of these local or general responses resolve within several days. More recently, the Korean Food and Drug Administration (KFDA) approved the efficacy of two imported vaccination drugs for the prevention of anal, vulvar, and vaginal cancers when it is appropriately inoculated in young women before their first sexual experience.

Oropharyngeal cancer can be broadly defined to include the oral cavity, pharynx, tonsils, and some parts of the deep pharyngeal wall. However, a more strictly differentiated meaning of the oropharynx is the posterior part of the oral cavity including the base of the tongue, tonsils, and pharyngeal wall. This pharyngeal mucosa composed of the reticulated epithelium and some crypts of the tonsils provides a kind of immune system that is vulnerable to HPV invasion with subsequent virion penetration. With inclusion of HPV infection in the laryngeal region, this HPV-prevalent region was considered head and neck cancer by previous clinicians and pathologists.

Based on this previous information and knowledge, we must concentrate on pure oral cancer of the oral cavity including gingival, buccal mucosa, tongue, palate, and lip cancers for future prevention of HPV infection through large-scale HPV inoculations in females. This indicates that there will be fewer female oral cancer patients in the next 20 to 30

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years, although the number of male oral cancer patients will remain unchanged.

These questions or future predictions must be considered. This is the reason for our expectation to be included in the next special article, “HPV in oral cancer.”

Conflict of Interest

No potential conflict of interest relevant to this article was reported.