https://doi.org/10.1590/1806-9282.20230452

Importance of human papillomavirus genotyping and standardized sampling in men

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At present, the most common sexually transmitted disease in the world is caused by human papillomavirus (HPV) and is associated with a significant global socioeconomic burden[1]. Vaccination is the most important step in the management of HPV. However, despite the progress in vaccination studies in recent years, the disease cannot be said to be under control. An important reason for its widespread is that the vast majority of cases are asymptomatic, and, in particular, sexually active individuals continue to be contagious like vectors. Nucleic acid amplification tests (NAATs) such as PCR (polymerase chain reaction) are the diagnostic gold standard because serological tests are inadequate in the diagnosis of HPV[2]. Due to the strong association between HPV and cervical and other anogenital carcinomas, the vaginal swab sample has been used successfully for HPV genotyping in women for many years. However, men are the other side of the HPV management coin, and there lies a serious problem. As is known, the U.S. Food and Drug Administration (FDA) does not recommend HPV tests for men[3]. This means that the presence of HPV in men can be ascertained by clinicians only in the presence of genital warts or symptomatic infection. However, genital warts usually manifest with low-risk HPV types. As a result, most HPV-positive men, especially those with high-risk HPV types, remain undiagnosed. The relationship between HPV and penile cancer has long been known, and recent studies have also provided evidence of a strong association between HPV and urothelial carcinoma of the bladder[4]. We believe that the FDA's position on this matter requires reconsideration.

There is also a gap regarding the effective sampling method for HPV genotyping in men. Of course, the FDA's decision has a large influence on this. This decision may also be related to the limited number of published reports on this subject. Standardization is needed for accurate and effective sampling in men. In asymptomatic patients, the inside of the foreskin is a recommended swab sampling site, while anal swab/cyto-brush samples are widely used in men who have sex with men (MSM)[5,6]. However, the approach for circumcised and heterosexual men is unclear. In our opinion, a standard should be established for sampling all men—MSM or heterosexual, circumcised or uncircumcised—with the same diagnostic efficacy. According to previous publications, there is no common approach among sampling methods for HPV genotyping in men due to the above differences. In addition, as PCR technology continues to develop and HPV typing is performed more routinely, it is has become clear that HPV types other than the most well-known HPVs (6, 11, 16, and 18) are more common than expected, and that people often carry multiple HPV types[7]. This shows that HPV management in men needs an update. In a recent study, PCR analysis of swab samples from multiple sites and the wart itself in male patients presenting with genital warts, 78.2% of these patients had multiple HPV types and 71.9% had at least one high-risk HPV type[8]. We think that the importance of male factor in the control of HPV infection will become more evident in future. Therefore, researchers need to work more intensively to establish standard sampling protocols with high diagnostic efficacy for HPV-DNA screening tests. For this to happen, we hope that the FDA will reconsider its position on HPV genotyping tests in men.

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Conflicts of interest: the authors declare there is no conflicts of interest. Funding: none.
Received on April 14, 2023. Accepted on July 07, 2023.

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