

Prevalence of Multiple Types of Genital Human Papillomavirus Infections in Men: A Study in Poland

Introduction and Objective: Anogenital infections with mucosotropic and nearly 40 types of human papillomaviruses (HPV) are sexually transmitted. Their prevalence in males is comparable to females but HPV infection in men is largely unknown. Since such information is needed to perform prevention strategies, the goal of our study was to estimate prevalence of type-specific genital HPV infection in men and the associated factors.

Materials and Methods: Within a multicenter clinical preventive trial, penile sampling of 826 (100%) uncircumcised and sexually active males (aged 25 - 69 yrs) residing in Poland was studied. Despite routine clinical examination, external genitalia were examined using peniscopy. A cytologic smear was obtained from the urethra. DNA HPV in smears was detected by hybrid capture – HC2 and in the biopsy material by means of polymerase chain reaction (PCR).

Results: Twenty-three HPV types were detected, including 11 high-risk oncogenic types (53- 6.4% men) and in 65 (7.87%) individuals both oncogenic and nononcogenic simultaneously - altogether 118 (14.3%) and also 12 low-risk multiple nononcogenic types (248-30% men). Penile HPV prevalence was approximately 26.8%. In 53 (6.4%) cases we detected multiple oncogenic types (single HPV16 only in 17 cases -2.1%). Penile HPV DNA detection did not appear to be associated with age. Our analyses also suggested a lower prevalence of HPV infection among male participants who reported consistent condom use, and fewer sexual partners. In men, having a history more than 10 sexual partners over their lifetime increased likelihood of detecting HPV DNA. The clinical significance of multiple HPV infections (with both high-risk and low-risk types) is unknown but it is possible that non-oncogenic HPV types contribute to enhanced keratinocyte proliferation resulting in facilitation of oncogenic HPV infection.

Conclusion: Data from our study showing a high prevalence of HPV infection in Polish population of men will be helpful for future studies on HPV transmission dynamics. Recently it has established that the HPV vaccines elicit robust antibody responses in men and is safe and efficacious against HPV infection and external genital lesions among young men.