Human Papillomavirus (HPV) Genotype- and Age-Specific Analyses of External Genital Lesions among Men in the HPV Infection in Men (HIM) Study


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BACKGROUND: Human papillomavirus (HPV) causes external genital lesions (EGLs) in men, including condyloma and penile intraepithelial neoplasia (PeIN). We sought to determine the incidence of pathologically confirmed EGLs, by lesion type, among men in different age groups and to evaluate the HPV types that were associated with EGL development.

METHODS: HPV Infection in Men (HIM) study participants who contributed ≥2 visits from 2009-2013 were included in the biopsy cohort. Genotyping by an HPV line-probe assay was performed on all pathologically confirmed EGLs. Age-specific analyses were conducted for incident EGLs, with Kaplan-Meier estimation of cumulative incidence.

RESULTS: This biopsy cohort included 2754 men (median follow-up duration, 12.4 months [interquartile range, 6.9-19.2 months]). EGLs (n = 377) were pathologically confirmed in 228 men, 198 of whom had incident EGLs. The cumulative incidence of any EGL was highest among men <45 years old and, for condyloma, decreased significantly over time with age. The genotype-specific incidence of EGL varied by pathological diagnoses, with high- and low-risk genotypes found in 15.6% and 73.2% of EGLs, respectively. Condyloma primarily contained HPV 6 or 11. While PeIN lesions primarily contained HPV 16, 1 PeIN III lesion was positive for HPV 6 only.

CONCLUSION: Low- and high-risk HPV genotypes contribute to the EGL burden. Men remain susceptible to HPV-related EGLs throughout the life span, making it necessary to ensure the longevity of immune protection against the most common causative HPV genotypes.