

INCIDENCE AND PREDICTORS OF ANAL HIGH-GRADE SQUAMOUS INTRAEPITHELIAL LESIONS (HSIL): THREE-YEAR FOLLOW UP RESULTS FROM THE STUDY OF THE PREVENTION OF ANAL CANCER (SPANC)

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Background: Gay and bisexual men (GBM) suffer the highest incidence of anal cancer as a subpopulation. Anal HSIL is the presumed cancer precursor for which the natural history is poorly understood. We report the incidence and predictors for anal HSIL in a cohort of GBM in Sydney, Australia.

Methods: SPANC participants underwent cytological and histological assessments and HPV genotyping (Roche Linear Array) at all study visits. Composite HSIL was defined as detection of cytological and/or histological HSIL. Incident HSIL was identified in: 1) in those who did not have HSIL at study baseline; and 2) in those who cleared HSIL during the study.

Results: Of 617 men recruited, 377 men attended all annual follow-up visits by February 2018. Among them, 226 men (median age: 51, 29.7% HIV-positive) did not have composite HSIL at baseline. By 36 months, 64 developed HSIL, an incidence of 10.3 per 100 person-years (95%CI: 8.1-13.2). Age and HIV status were not associated with HSIL development. Testing positive to HPV16 at baseline (HR=2.88, 95%CI 1.60-5.08), but not HPV18 was associated with incident HSIL. HSIL incidence was lowest in those who tested negative to HRHPV consistently at baseline and 12-month visits (3.2 per 100 person-years), compared with those who had persistent HPV16 infection (33.6 per 100 person-years, HR=10.10, 95%CI 4.21-24.3) and persistent infection of other HRHPV types (21.4 per 100 person-years, HR=6.60, 95%CI 2.92-15.0). In 96 participants who cleared HSIL during the study, 32 developed new HSIL subsequently (21.6 per 10 person-years, 95% CI 15.2-30.5), an incidence significantly higher than that of first development of HSIL from baseline (p=0.001).

Conclusion: The development of incident anal HSIL was common in sexually active GBM and was strongly associated with persistent HRHPV infection. Among men

without HSIL, repeat HRHPV testing identifies those who were likely to develop this condition.

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