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Prevalence of anogenital Hpv infection, related disease and risk factors among Hiv-infected men in inner-city Johannesburg, South Africa: Baseline findings from a cohort study

Chikandiwa Admire[1], Chimoyi Lucy[1], Pisa Pedro T[1], Chersich Matthe F[1],Muller Etienne E[3], Michelow Pamela[4], 5, Mayaud Philippe [1], [2] and Delany-Moretlwe Sinead[1]

[1]Wits RHI, Johannesburg, South Africa

2London School of Hygiene and Tropical Medicine, UK

[3]National Institute for Communicable Diseases, South Africa

[4]University of the Witwatersrand, South Africa

[5]National Health laboratory Services, South Africa

Background: Persistent high-risk human papillomavirus (HR-HPV) infection is associated with the development of anogenital cancers, particularly in men living with HIV (MLWH). We describe the prevalence of anogenital HPV infection, abnormal anal cytology and anogenital warts (AGWs) in MLWH in Johannesburg, and explore whether HPV infection and receipt of antiretroviral treatment is associated with detection of abnormal anal cytology and AGWs.

Methods: We enrolled a cohort of 304 sexually-active MLWH≥18 years, who completed a questionnaire and physical examination. Genital swabs were collected from all men and intra-anal swabs from 250 (82%). Swabs were tested for HPV DNA and genotypes, and anal smears graded using the Bethesda classification. Factors associated with anogenital disease were assessed by logistic regression models.

Results: Two-thirds were receiving antiretroviral treatment, for a median 33 months (IQR=15-58) and 54% were HIV-virologically suppressed. Only 5% reported ever having sex with men. Among 283 genital swabs with valid results, 79% had any HPV, 52% had HR-HPV and 27% had >1 HR-HPV infection. By comparison, 39% of the 227 valid intra-anal swabs had detectable HPV, 25% had any HR-HPV and 7%>1 HR infection. While most anal smears were normal (51%), 20% had ASCUS and 29% were LSIL. No cases had HSIL or cancer. Infection with >1 HR type (adjusted OR [aOR]=2.39; 95%CI=1.02-5.58) and alpha-9 types (aOR=3.98; 95%CI=1.42-11.16) were associated with having abnormal cytology. Prevalence of AGWs was 12%. Infection with any LR type (aOR=41.28; 95%CI=13.57-125.62), >1 LR type (aOR=4.14; 95%CI=1.60-10.69), being <6 months on antiretroviral treatment (aOR=6.90; 95%CI=1.63-29.20) and having a CD4+ count <200 cells/µL (aOR=5.48; 95%CI: 1.60-18.78) were associated with having AGWs.

Conclusions: In this population, anogenital HR-HPV infection and associated low-grade disease is common, but severe anal dysplasia was not detected. Findings reinforce the need for HPV vaccination in men for preventing both AGWs and HR-HPV infection. Given the absence of anal HSILs, however, the findings do not support the use of anal screening programmes in this population.

e: achikandiwa@wrhi.ac.za