

Human Papilloma Virus Genotypes in HIV+ Men who have Sex with Men in the Dominican Republic in 2010.

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Dr. Paulino is currently studying in a masters program in Public Health. His research focuses in HIV infection and STD co-infections, specifically the role of Human Papilloma Viruses in Vulnerable communities and non-AIDS-defining cancers.

Background

Human Papilloma Virus (HPV) infection is one of the most common sexual transmitted disease (STDs). Among the men who have sex with men (MSM) population, HPV infections have been related to anal, penile, and pharyngeal dysplasia, and the incidence rate of these increase in those infected with Human Immunodeficiency Virus (HIV). HPV genetic diversity includes more than 100 genotypes according to their oncogenic potential. Studies in females have found HPV-16, 18, 31, and 33 to be the most common types identified in cervical cancers. IDEV has a branch unit, the Centro de Atención Especializada (CAE), which focused on treating persons involved in same sex relationship. CAE has been applying specific protocols for the early detection of anal dysplasia in those infected with HIV.

Materials and Methods

After informed consent, clinical evaluation was done and epidemiological information was collected about antiretroviral use, sexual behavior, condom use, and STD co-infections. Anal samples were taken with Dacron swabs and placed in Preservcvt® media, to be amplified by PCR, and compared with the different genotypes in the linear array strips. The latter technique identifies 13 high risk genotypes (16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, and 68) ; and 24 low risk genotypes (6, 11, 26, 40, 42, 53, 54, 55, 61, 62, 64, 66, 67, 69, 70, 71, 72, 73, 81, 82, 83, 84, IS39 and CP6108). Samples were also sent for cytological evaluation.

Results

Forty anal samples were collected, during the period of October-December 2010. Sixty seven per cent of those found to be positive for HPV were taking HAART. During the interview 70% (n=28) reported the use of condoms, with all of the sexual contacts all the time, and 13% (n=7) stated they used condoms often. Seventy five per cent (n=30) refer to having between 1-10 partners in the last 3 months. All the 40 samples had the presence of at least one papilloma virus. Of those 24 men in the group of low-risk genotypes, the most prevalent was type 84, being detected in 10 anal samples, representing 41.6% of all the low-risk subtypes detected, followed by subtype 6, 55, and CP6108 detected in 8 samples, representing 33.3%. In the high-risk genotypes, subtype 45, was detected in 10 of the 40 samples, representing 76.9% of the high-risk targets (n=13); subtypes 51 and 52 were detected in 7 samples, and subtypes 56, 59, and 18 in 6 of all the samples. We also detected subtypes 16, 39, and 58 in 5 samples, most of them presenting in individuals with multiple subtypes of the virus. None of the cytological evaluations showed pathological changes.

Conclusions

In the present study, HPV detection was high: 100% of all the anal samples were positive for HPV; although 70% answered that they always used condoms with all their sexual partners. The linear array used in this study allows the detection of 24 low-risk subtypes and 13 high-risk subtypes, with an accuracy of 96.8%. Compared with cervical samples

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in females where subtypes 16, 18, 31, and 33 are the most commonly found, in the male cohort subtype 45 was the most prevalent. There is no data published about different subtypes found in anal cells, but it is well accepted that those affecting cervical cells will be most suitable and most probable to affect anal cells. The correlation between those in antiretroviral treatment and those that are not may play a central role in the evolution of clinical symptoms; therefore the anal pap smear recommendation should be reinforced in the MSM population.

The cytology results substantiate the need to do more specific testing for early HPV detection. As such studies will insure the application of adequate protocols in anal cancer prevention. HPV vaccination with the quadrivalent vaccine that includes protection against subtypes 6, 11, 16, and 18, may not be affected in the face of these findings in the male population.

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