

**Session P-O5 Poster Session Thursday March 6, 2014, 2:30 pm–4:00 pm Exhibit Hall B
Cervical Cancer, HPV, and HPV Vaccine 715**

Epidemiology and Dynamics of HPV Infection in Romanian Women Infected With HIV in Early Childhood

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Background: Human Papilloma Virus (HPV) is the most common sexually transmitted virus worldwide and the most common cause of cervical cancer. Romania, where cervical cancer screening is not standard of care, has the highest rate of cervical cancer in Europe. Here we evaluate the prevalence and dynamics of HPV infection in a cohort of Romanian women in their early 20s who were parenterally infected with HIV during early childhood.

Methodology: 65 young women with chronic HIV infection and 25 age-matched controls were evaluated for the presence of cervical HPV infection and for cytologic abnormalities. HPV typing was performed using the Linear Array HPV Genotyping Test (Roche).

Individuals were screened for other sexually transmitted infections, and HIV data was obtained from patients' charts. Risk factors for HPV infection and socio-demographic information were also obtained. 42 subjects were seen at two or more time-points. Statistical comparisons using standard approaches were made between the HIV infected (HIV+) and uninfected (HIV-) groups at baseline, and between HIV+ individuals with and without HPV infection.

Results: Although the HIV- and HIV+ groups were fairly similar, HIV- individuals had more years of schooling, were less likely to be on social support, and were more likely to use barrier contraception ($p < 0.056$). 43% (28/65) of HIV+ and 32% (8/25) of HIV- subjects were infected with HPV, and 21/65 and 6/25 had high risk subtypes respectively. There was no significant difference between HIV+ (14) and HIV- (5) subjects in terms of having HPV infection with more than one strain ($p = \text{NS}$). Using our longitudinal data, we found an incidence rate of 0.69 HPV acquisition events per subject per year, and a rate of 0.52 for high risk subtypes. In individuals sampled more than once, those having maintaining or acquiring a new subtype in follow up were more likely to have a lower nadir CD4 count ($p = 0.043$) and a lower current CD4 count ($p = 0.010$). In the HIV+ group, of 13 individuals with abnormal cytology at baseline, nine (69.2%) progressed or remained stable while only four regressed.

Conclusions: We describe here HPV infection in a unique group of young women infected with HIV during early childhood, acquiring HPV in the setting of long-term HIV infection. Although HPV prevalence was only slightly higher among the HIV+ group, possibly due to differences barrier contraception use, the decreased ability of HIV infected young women to mount new immune responses predisposed them to HPV progression and Pap smear abnormalities. Given the high rate of HPV acquisition, and progression of abnormal cytology in this cohort, HPV vaccination even at this stage may be useful.