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HPV vaccination in HIV infected women

Abstract

In the Center of Excellence in HIV/AIDS Constanta, Romania, 196 women, aged 22–45, median age 27years old, 82% undergoing HAART, 38 with low CD4 count (less than 200 cells/mm3) were enrolled in a surveillance study, 98 of these were vaccinated for HPV infections (HPV strains 6, 11, 16 and 18) and compared with the other 98 unvaccinated HIV women. After 3 years of follow up, we noted no genital warts, cervical precancerous lesions or cervical dysplasia compared with the control group. We recommend HPV vaccination in HIV infected woman with sexually active life, regardless of CD4 count, for the prevention of cervical cancer.

Keywords: HPV, HIV women, vaccine

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Introduction

Human papillomavirus (HPV) infection rates are high in HIV infected patients, with a prevalence of 66% in women, much higher than in HIV-uninfected females, and the percentage is even higher in patients with a low CD4 count (CD4< 200cells/mm3).[1] HPV-related cancer occurs at increased rates in the HIV-infected woman with sexual activity, these females are at least 5times more likely to be diagnosed with cervical cancer.[1,2] Two HPV types, HPV-16 and HPV-18, cause 70% of cervical cancers. Two other strains, HPV-6 and HPV-11, cause 90% of genital warts. Women with HIV may benefit from a vaccine for human papillomavirus, despite having already been exposed to HPV.[3]

In many studies, the HPV vaccine prevented 98.8% of genital warts, 98% of cervical precancerous lesions associated with virus strains targeted by the vaccine, and 98% of cervical dysplasia related to these vaccine strains in subjects with no prior HPV infection.[4,5] In the Center of Excellence in HIV/AIDS, Constanta, Romania, we supervise a total of 1030HIV infected patients, 428 of which female, more than 50% of them sexually active.

Table 1 Baseline characteristics

Baseline characteristics	HPV vaccinated women	HPV unvaccinated women
No. of patients	98	98
Median age	24 years old	29.6 years old
CD4> 200/mm^3	62 pts	53 pts
CD4< 200/mm^3	38 pts	47 pts
VL –undetectable	59 pts	42 pts
VL-detectable	41 pts	58 pts
Genital warts	0 pts	6 pts
Cervical precancerous lesions	0 pts	2 pts
Cervical cancer	0 pts	2 pts

Pts, Patients

A study conducted in our clinic during 2007-2010 showed that 18% of HIV-infected patients had genital disorders: vulvar warts 7%, cervical cancer 3%, cervical dysplasia 2%, other diseases 6% (vulvovaginal candidiasis, genital herpes, lues, pelvic inflammatory disease).[6] Given the large number of patients with genital warts, cervical cancer and cervical dysplasia with HPV infection demonstrated by the presence of HPV antibodies, we proposed to vaccinate these patients with HPV vaccine and track the effectiveness of vaccination for a period of three years follow up. 196 women, aged 22–45, median age 27years old, 82% undergoing HAART, 38 with a low CD4 count (less than 200 cells/mm3) were enrolled in a surveillance study, 98 of these were vaccinated in 2010 (Table 1) with HPV vaccine (HPV strains 6, 11, 16 and 18), three doses (0-2-6) and were monitored clinically and cytologically during 3years, the results being compared with the ones from the other 98 unvaccinated HIV women.

These women were checked every six months, for 3years, and we noted no genital warts, cervical precancerous lesions or cervical dysplasia compared with the control group, where we reported 6 females with genital warts, 2 with precancerous lesions and 2 with cervical cancer.

Discussion

In recent years, there have been reported numerous communications about HPV vaccination in HIV-infected patients. In 2013, Mesher et al.,[7] reported that HPV immunization is successfully preventing HPV 16/18 infection in sexually active young women in England while Markowitz et al.,[8] concluded that within 4years of vaccine introduction, the vaccine-type HPV prevalence decreased among females aged 14-19years despite low vaccine uptake and the estimated vaccine effectiveness was high. This is the first surveillance study of HPV vaccine effectiveness in HIV infected patients in our country.

Conclusion

HPV vaccination was effective in our study, the results suggesting high vaccine effectiveness and some herd-protection benefits. We recommend HPV vaccination in HIV infected women with a sexually active life, regardless of CD4 count, for the prevention of cervical cancer and other clinical manifestations caused by HPV infection.

Acknowledgments

None.

Conflicts of interest

Authors declare there are no conflicts of interest.

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