Cervical human papillomavirus infection; epithelial abnormalities in human immunodeficiency virus infected women

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Summary

Objective: The aim of the study was to determine the prevalence of cervical infection with human papillomavirus (HPV) in human immunodeficiency virus (HIV) infected women.

Materials and methods: Cervical Papanicolaou tests, colposcopy and biopsies were performed in 21 HIV seropositive women.

Results: Four patients (19%) had an abnormal smear test, one had CIN-II (4.7%) and three had cervical warts (14.2%).

Key words: Papillomavirus; Cervical epithelial abnormalities; Immunodeficiency virus.

Introduction

Human papillomavirus is the main factor responsible for the development of most cervical neoplasms, including invasive cervical cancer [1]. Using epidemiological data, investigators have found evidence of HPV in 90% of cervical cancer cases. HPV is the most common sexually transmitted disease [2].

The most common infections associated with immunosuppression induced by HIV infections are human papillomaviruses and the associated diseases: external genital warts, low and high-grade squamous intraepithelial lesions (SILs) [3, 4]. Immunosuppression induced by HIV infections inhibits clearance of papillomaviruses and promotes their reactivation [5].

The prevalence of HPV infection among HIV seropositive women is about five times more frequent than in the general population [6]. In addition these women have higher HPV viral loads, more persistent infections, and greater numbers of precancerous lesions than HIV seronegative women [7].

Materials and Methods

There were 21 HIV seropositive women recruited from the HIV reporting center of AHEPA Hospital of Thessaloniki. The average age of the patients was 25 years. Two were drug users and five were hepatitis B carriers. All women were nulliparous with more than three sexual partners. The average reporting time of diagnosis of infection was two years. There were no clinical manifestations of the HIV infection in any of them. All women had a gynecological examination, Papanicolaou test and colposcopy. The examinations were scheduled at 3-month intervals for the patients who had colposcopic abnormalities and at 6-months intervals for the other women.

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Results

Four women of 21 HIV seropositive (19%) had colposcopic abnormalities caused by HPV infection. One of them (4.7%) had cervical intraepithelial neoplasia (CIN-II). She had been successfully treated by the loop electrosurgical excision procedure (LEEP). Three of them (14.2%) had cervical warts. As is known low-risk HPV types (e.g., 6, 11, 42, 43) are primarily responsible for the development of genital warts or LSIL. Invasive cervical cancer was not identified (Figure 1).

For the four women with colposcopic abnormalities, follow-up gynecologic examinations, smear tests and colposcopy were scheduled at 3-month intervals for the first year after the treatment. For the 17 HIV seropositive women without colposcopic abnormalities, follow-up gynecologic examinations, smear tests, and colposcopy were scheduled at 6-month intervals for the first year. During this year we did not find colposcopic abnormalities.

Figure 1. — *Cervical lesions in HIV positive women (n = 21).*

Type of lesion	Number of patients (n = 21)
CIN-II	1 (4.7%)
Cervical warts	3 (14.2%)

Discussion

In our study the prevalence rate of HPV causing abnormalities (warts or CIN) was 19%. Some authors have reported that 20% of HIV infected and 5% of uninfected women developed SILs [8]. Wright and colleagues reported that 20% of HIV seropositive women had CIN confirmed by colposcopy [9].

As is already known in women who are HIV seropositive, HPV rapidly progresses and has been linked to cer-

vical cancer [10]. Significant risk factors for incident SILs are younger ages, virus load and persistent HPV (types 16, 18). To identify this population, smear tests and colposcopy must be used to screen for cervical disease in HIV infected women [11].

The goal of treatment for SIL is eradication or ablation of the lesions, as no better therapies to treat cervical SIL are known; furthermore careful follow-up of abnormal lesions and multiple ablative therapy may be necessary to prevent progression to cancer.

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