Vulvodynia and HIV: causal or casual association?

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Background: No study exists on HIV and vulvodynia.

Objective: To evaluate vulvodynia in HIV infected women and its possible association with HIV.

Design: Cross sectional study.

Setting: Department of Medical and Surgical Sciences, Section of Infectious Diseases, University of Turin.

Methods: 235 HIV positive and 272 HIV negative women were studied for vulvar pain between June 1995 and January 1997. Diagnosis of vulvodynia was based on clinical history, dermatological and vulvovaginal examination, and bacteriology. Colposcopy and vulvar biopsy were performed and psychometric examination was done.

Results: Vulvodynia was diagnosed in five women with HIV and in one uninfected woman (odds ratio = 2.5; 95% confidence interval: 0.1–62.6). High neuroticism scores were observed in women with history of vulvar pain, the highest in HIV infected vulvodynia patients (p = 0.000).

Conclusions: Confirming the association of gynaecological pain with neurotic personality, our study suggests causal link between HIV and vulvodynia.

Keywords: vulvodynia; HIV; dyspareunia

Introduction

Vulvodynia is an underestimated syndrome including vulvar pain, sexual dysfunction, and psychological impairment. Although distinct subsets of vulvodynia have been recognised, there are many women with unexplained vulvar pain.

In a study of general gynaecological practice, the prevalence of vulvodynia has been reported to be as high as 15%, but no data exist on HIV and vulvodynia. Likewise, no research has focused on HIV related distress and genital pain disorders.

Thus, our goals were to investigate vulvodynia in HIV infection and to estimate the association between vulvodynia, HIV, and psychological distress.

Patients and methods

Subjects were participants in an ongoing study on HIV, hepatitis, and STDs who had the first or follow up medical care between June 1995 and January 1997 at the clinic of infectious diseases, University of Turin. Patients who had repeat visits were entered only on the first visit. Participants completed an entry questionnaire covering basic information, behaviours, obstetric and medical history. Women complaining of vulvar pain had detailed dermatological and vulvovaginal examination and only those with ≥ 6 month history of vulvar pain, poor treatment response, and who fulfilled Friedrich’s criteria were included in the study.

Psychometric evaluation was performed using four questionnaires. The Eysenck Personality Questionnaire (EPQ) measures four dimension of personality: psychoticism, extraversion, neuroticism, and lie scale. The Golombok Rust Inventory of Marital State (GRIMS) assesses the quality of the couple’s relationship with lower scores indicating more stable relationships. The Hamilton Rating Scale for Anxiety (HAM-A) and the Hamilton Rating Scale for Depression (HAM-D) quantify the anxious symptoms and the depressive contents, respectively.

HIV and syphilis serologies were assessed and T lymphocyte subsets were determined. Delayed hypersensitivity was tested and a wet mount of vaginal fluid was examined for motile Trichomonas vaginalis, yeast cells, mycelia, and clue cells. Samples were collected from the vulvar and vaginal wall for culture for Gardnerella vaginalis and Candida species. Cervical swabs were obtained for gonococcal and chlamydial cultures. Urethral specimens were collected for microscopy and culture for Neisseria gonorrhoeae, Chlamydia trachomatis, and mycoplasms. Cultures for midstream urine specimens were examined. To identify papilloma-like lesions, 5% acetic acid solution was applied to the vulvar site of maximum pain. Vaginal pH was tested with an indicator paper. Mann-Whitney’s U test was used to assess differences in psychometric measures.

Results

Of 507 women (235 HIV positive, 272 HIV negative) examined, 28 (16 HIV positive, 12 HIV negative) had vulvar pain (Table 1). Of
these, 19 were excluded because of a history of infection or dermatosis. The remainder (seven HIV positive, two HIV negative), aged 26–32 (median 27-5 years), had history of lasting vulvar burning (median 24 months, range 12-26) and poor treatment response. Among the HIV positive women, the vulvar discomfort began after HIV infection (median 24 months, range 16-29). Three women belonged to III B and four to IV-C2 B CDC groups. Median CD4+ cells were $267 \times 10^6$ cells/l (range 163-442). Dyspareunia and painful coitus were present, but vulvar examination and vulvoscopy were unremarkable. Burning and pain on palpation were located in the vulvar vestibule between 4 and 8 o'clock in three women and predominantly at 6 o'clock in the remainder. Two subjects had pain during washing, micturition, and sometimes on wearing tight clothing. None reported pain cyclicly or vulvar trauma except as a result of delivery. Vaginal pH ranged from 4.6 to 6.2 (median 6.0). Symphils serology was negative. Three patients (two

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<th>HIV+ (n = 16)</th>
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<td>HAM-D</td>
<td>28 (16-35)</td>
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<td>HAM-D</td>
<td>13 (7-21)</td>
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<td>4 (3-8)</td>
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<td>33 (16-48)</td>
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*Based on HAM-D items 10-17; † assessed in coupled participants (n = 15); HIV+ = seropositive to HIV; HIV− = seronegative to HIV; HAM-D = Hamilton Rating Scale for Anxiety; HAM-D = Hamilton Rating Scale for Depression; GRIMS = Golumbock Inventory of Marital Status; EPQ = Eysenck Personality Questionnaire.

Discussion
Vulvar discomfort is generally due to specific causes, but many cases of HIV associated symptomatic vulva remain undocumen- ted.1,5 Because HIV positive patients show heightened attentional focus upon normal sensations throughout their bodies, it is often difficult to disentangle physical problems from somatisation of negative emotions. Furthermore, healthcare personnel are mainly focused on clinical assessment and sex related emotional complaints are scarcely investigated.

Chronic pain is often associated with poor disease acceptance and this fact can interfere with sexual functioning. Vulvar pain in a patient with HIV could depend on the antiretroviral therapy side effects, but it seems unlikely that such an effect was only localised to the vulva.7 Because the vestibular epithelium has specific development and it is the only genital tissue derived from the entoderm, the exclusive pain localisation may be due to variation in inherent sensitivity. Alternatively, HIV induced radiculitis of the lumbar plexus could be invoked. Furthermore, genitourinary infections may trigger sympathetically mediated pain and the vulvodynia could be an idiosyncratic response to recurrent tissue insults. Moreover, HIV can modify the vestibular mucus and start a sequential process with vulvodynia as the conclusive event. Interestingly, the onset of vulvar pain after seroconversion is suggestive of a causal role of HIV and the cross product ratio supports this hypothesis.
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The non-STD vulvodynia population often develops psychological distress following vulvar pain and doubts arise on the assumption that vulvodynia is a purely functional disorder. Confirming the relation between pain, anxiety, and depression the psychometric findings of women with vulvar pain raised the question of the time sequence. Because HIV induces both psychological and gynaecological disorders, data conflict on which came first and a history of drug use introduces additional confounders.

A series of study limitations should be acknowledged. Firstly, because the sample size of women with vulvar pain was small and the CI for the OR included 1, we cannot be absolutely confident that there is causal link between vulvodynia and HIV. Secondly, genetic and sociocultural differences have been described among patients with vulvodynia. We lacked this information and its importance remains unknown. Thirdly, Berkson’s fallacy could bias our results because we studied only patients referred to our clinic. Fourthly, because we did not control for duration of HIV infection, prevalence bias could occur. Finally, because there was large presence of intravenous drug users among the participants and drug use has a significant effect on gonadal function, future research is needed to assess this possible confounder.7

Despite the limitations, this study expands available information on vulvodynia. The need for a standard evaluation of the sexual dimension is essential among HIV infected women to verify the existence of HIV associated vulvodynia.

6 Centers for Diseases Control. Revision of the CDC surveillance case definition for acquired immunodeficiency syndrome. MMWR 1987;36(suppl 15):3S-15S.