HIV and Men

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ABSTRACT

Introduction: Since the initial description of HIV and AIDS, monumental efforts have been made both in the developed and developing countries to devise strategies and medications to control the disease. The advent of highly active antiretroviral therapy has now meant that the diagnosis of HIV is no longer a life-sentence and compliant patients with HIV can expect life expectancy similar to their noninfected peers. Consequently new challenges have arisen in the management of benign conditions.

Aim: To provide an overview of the key conditions and issues that HIV/AIDS patients may present with to an andrological service.

Methods: Using PubMed, we screened the literature for studies on common andrological conditions specifically pertaining to HIV and AIDS.

Main Outcome Measures: The urological manifestations of HIV/AIDS in men have been summarized in an attempt to provide a useful guide for sexual health practitioners dealing with HIV-positive men.

Results: As a result of advancements in pharmaceuticals, life expectancy of men infected with HIV has improved almost to that of the general population in developed countries. Therefore, clinicians are faced with non–life-threatening urological problems that affect the quality of life of men with HIV. The majority of these problems can be managed easily, by adapting a "patient-centered" approach, instead of "disease-centered" algorithms.

Conclusion: With improved survival and understanding, patients with HIV/AIDS can and do expect to enjoy a healthy sex life. With appropriate counseling around safe sex and careful management with consideration for disease-specific issues as well as the influence of medical therapy, patients can achieve a good quality of life.

Key Words: AIDS; Erectile Dysfunction; HIV; Sexual Dysfunction; Sexually Transmitted Disease

INTRODUCTION

HIV is a lentivirus (a subgroup of retrovirus) that is estimated to affect 30.6 to 36.1 million people worldwide, the vast majority of whom are located in sub-Saharan Africa.[1] The virus is carried by most bodily fluids, although transmission is only convincingly possible by blood, semen, and vaginal secretions.[2] Once the virus gains access to its host it binds to the CD4 molecule on T4 lymphocytes among other cells. It is able to incorporate its own RNA into the host cells' DNA via reverse transcriptase. The cell then replicates the incorporated DNA into viral mRNA, which is then released. The effect is that of a reduction in the CD4 exhibiting immune cells and if left unchecked, collapse of the host's immune system. Patients with HIV can go on to develop AIDS. A patient is considered to have progressed to AIDS if their CD4 count is <200 cells/mm^3 or they exhibit 1 of >20 AIDS defining conditions.[3]

Prior to the introduction of modern therapies, HIV inevitably progressed to AIDS and ultimately death.[4] Management was primarily focused on the treatment of opportunistic infections and malignancies and ignored the treatment of nonlethal conditions such as voiding dysfunction or sexual disorders. However, with the introduction of antiretroviral therapy (ART) and highly active antiretroviral therapy (HAART), the mortality associated with the disease has progressively reduced and patients can expect to live longer than 20 years if fully compliant.[5] As a consequence patients are developing more infectious, oncologic, endocrinologic, and metabolic comorbidities[6] related to HIV or long-term use of ART.[7,8] In addition to HIV-associated infectious diseases and malignancies, body fat redistribution, metabolic syndrome, an

Received July 15, 2015. Accepted September 7, 2015.

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http://dx.doi.org/10.1016/j.sxmr.2015.10.005

impaired hypothalamic-pituitary-gonadal axis, and sexual disorders also can affect patients' quality of life and cause serious problems.[9,10] Consequently the emphasis of management has shifted.

This article aims to summarize the urological manifestations of HIV/AIDS in men in an attempt to provide a useful guide for sexual health practitioners dealing with HIV-positive men.

SEXUALLY TRANSMITTED INFECTIONS

A number of studies have demonstrated that the presence of a sexually transmitted infection (STI) increases the risk of HIV transmission and acquisition.[11–18] Accurate diagnosis and treatment of STIs are of importance in individuals at high risk for HIV infection. Anyone with an STI or at risk for STIs should be recommended for HIV testing after appropriate counseling.[19] These infections may have more atypical and prolonged clinical manifestations in people with HIV infection.[19]

Genital Herpes Virus

Herpes simplex virus (HSV) infection is common in HIV-infected patients, with HSV-2 being predominant.[20] In the HIV population, HSV types 1 and 2 cause recurrent, severe, painful vesicles with an erythematous base.[21] Untreated lesions may enlarge and develop into confluent ulcerations that persist with secondary bacterial infections. Sometimes unusual ulcerations can occur without well-defined vesicles.[21] Herpes vegetans can present as an exophytic lesion associated with HSV and can easily be mistaken for penile cancer or condyloma.

Specific diagnosis is established by viral culture, polymerase chain reaction, or biopsy. It is understood that HSV infection increases HIV replication in patients infected with both viruses.[22] Although anti-HSV treatment with acyclovir reduces HIV in genital secretions among HIV and HSV–coinfected patients, randomized clinical trials have found that acyclovir as HSV suppressive therapy did not decrease the incidence of HIV infection in HSV-positive, HIV-negative women.[23,24]

Human Papillomavirus

In HIV-positive patients, the human papillomavirus (HPV) may cause warts in unusual locations such as the lip, tongue, and oral mucosa, in addition to the genitalia.[21] These lesions are resistant to treatment and these patients may be at higher risk of recurrence.[19] Whenever extensive warts develop, the patient should be screened for HIV infection.

HPV and HIV infection increases the risk for penile cancer by 5.9 and 8 times, respectively, compared to those without.[25] In part the increased risk of penile caner in HIV-positive men is a function of the increased risk of HPV in this group. However, there is evidence to suggest there is a synergistic relationship between HIV and HPV in the development of penile cancer.[26]

There is also an increased risk of anal cancer in HIV-infected patients who have had receptive anal intercourse and consequently some authorities recommend cytology for screening anal squamous intraepithelial neoplasia.[19]

Syphilis

A high prevalence of syphilis is found in men who have sex with men (MSM) in HIV-infected populations.[19,27] Primary infection with *Treponema pallidum* presents as the typical chancre in HIV-infected patients. Secondary syphilis may present in classic papulosquamous form with the involvement of palms, soles, and mucous membranes. However, unusual presentations are common, such as verrucous plaques, extensive oral ulcerations, keratoderma, deep cutaneous nodules, and widespread gummata.[21] The disease may progress faster from secondary to tertiary syphilis in HIV-infected patients. Early central nervous system relapse also can be more common.[28]

Chancroid

Chancroid is a cofactor for HIV transmission.[29] Culture of *Haemophilus ducreyi* is needed for definitive diagnosis.[30] A probable diagnosis can be made if the patient has painful genital ulcers, no evidence of *Treponema pallidum* infection, and a negative test for HSV.[28] The combination of painful ulcer and tender inguinal adenopathy suggests a diagnosis of chancroid. When accompanied by suppurative inguinal adenopathy, these signs are almost pathognomonic.[28]

Urethritis

Reiter syndrome, which consists of uveitis, urethritis, and arthritis, is the first rheumatic disease reported in HIV-positive patients and often presents in incomplete form.[31] The relation between Reiter syndrome and AIDS is poorly understood. The syndrome, and particularly the urethral discharge are usually refractory to antibiotic therapy.

Molluscum Contagiosum

Molluscum contagiosum is caused by a sexually transmitted poxvirus and develops in 10% to 20% of AIDS patients.[21] Characteristic lesions are umbilicated, dome-shaped, translucent 2- to 4-mm papules.[21] Lesions are widespread and may attain immense size in AIDS patients.[32] Most HIV-infected patients with extensive molluscum contagiosum have CD4 counts <250 cells/mL.

GENITOURINARY TRACT INFECTIONS IN HIV-INFECTED MEN

Urinary Tract Infections and Renal Infections

In patients with a CD4 count <200 cells/μL or with a high viral count urinary tract infections can be common, with the most usual organism being *Escherichia coli* and gram-negative Enterobacteriaceae. However, other atypical pathogens can be