

A Missed Opportunity: Indicator Disease Guided Testing for HIV

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Abstract

We report on a 42 year old, heterosexual black man presenting with an anal ulceration and generalized itch. Upon inspection, hyper pigmented disseminated cutaneous patches, non-removable whitish parallel plaques on the lateral borders of the tongue, and, moreover, residual hyper pigmentation and scarring on the right side of the abdomen after an episode of herpes zoster were observed. Based on the clinical suspicion of Kaposi sarcoma and oral hairy leukoplakia an advanced infection with HIV was suspected and, eventually, confirmed.

This case highlights the necessity of HIV testing in patients suffering from various indicator diseases including skin diseases such as herpes zoster or seborrheic dermatitis. This approach may not only help to prevent further morbidity in affected patients and consequently transmission of HIV, but also proves to be cost effective.

Keywords: HIV indicator disease; Herpes zoster; Seborrheic dermatitis; Oral hairy leukoplakia; HIV awareness

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Introduction

Infection with HIV should be diagnosed at the earliest time point possible given that advanced disease substantially increases morbidity and mortality [1, 2]. As a consequence, encouraging people to test for HIV is an important global public health issue. Given the low prevalence of HIV in central Europe and the unwillingness for universal HIV testing for most European governments [3], it has been proposed that HIV testing in individuals presenting with certain, so called 'indicator diseases' more common in HIV positive patients than in the general population may be a beneficial and cost effective alternative [3,4].

Report

A 42 year old, heterosexual black man originating from Nigeria seeking asylum in Austria presented with painful defecation for several days at the surgical outpatient clinic of the Vienna General Hospital. Upon anal inspection the diagnosis of an acute posterior fissure was made [Fig 1a, arrow] and a treatment with topical xylocaine and diltiazem ointment was commenced. Due to generalized itch for a few weeks the patient was sent to a dermatologist.

On inspection of the skin, asymptomatic darkly pigmented patches reaching up to 5cm in diameter on the trunk and the extremities were observed [Fig 1b, arrowheads] on dry skin. The mouth, genitals and the scalp showed no hyperpigmented patches. However, intraoral examination showed white, non-removable parallel plaques on the lateral borders of the tongue [Fig 1c, thick arrow]. Moreover, several hyper pigmented

maculae with small scars were observed on the right abdomen involving two dermatomes [Fig. 1d]. Upon request the patient reported the diagnosis and treatment of herpes zoster one year ago in Spain, yet no further laboratory tests had been performed.

Figure: 1

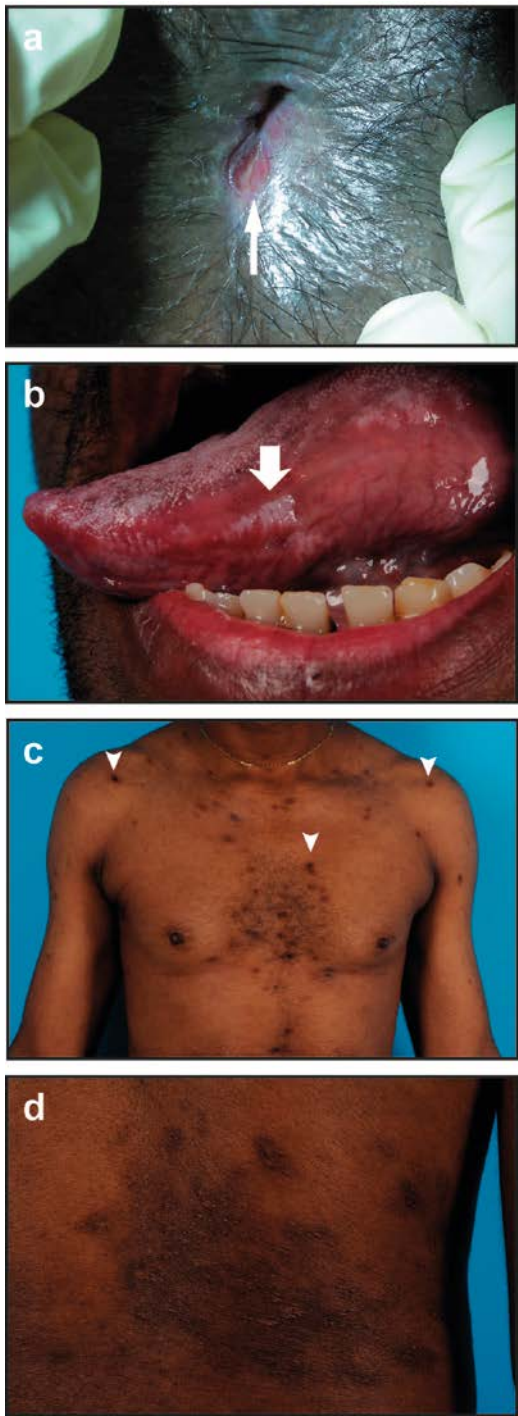


Figure 1: (a) Posterior anal ulceration (arrow). (b) Non-removeable, white plaques on the lateral sides of the tongue

(thick arrow). (c) multiple hyperpigmented patches on the trunk (arrowheads). (d) Hyperpigmentation of two dermatomes containing small scars.

For each complaint a number of differential diagnoses have to be considered [Tbl. 1]. Yet, a unifying diagnosis of all cutaneous lesions, namely healed multisegmental herpes zoster, disseminated hyper pigmented macules most compatible with Kaposi sarcoma, non-removable parallel plaques indicative for oral hairy leukoplakia and generalized itch, as well as the posterior anal fissure compatible with a STI or a herpetic infection in combination with the patients origin from a high prevalence country would be an advanced infection with HIV.

Table 1: List of differential diagnoses

Acute anal ulceration	acute anal fissure, lichen planus, inflammatory bowel disease, Behçets disease, bacterial (syphilis, haemophilus Ducrey, streptococci) or viral (herpes simplex virus type I or II, CMV, HIV) infections, trauma, malignancies.
Hyperpigmented patches	secondary syphilis, bacillary angiomatosis, postinflammatory hyperpigmentation, disseminated cutaneous lymphoma.
Whitish plaques on the tongue	oral hairy leukoplakia, candidiasis, secondary syphilis, geographic tongue.

As expected, the HIV-ELISA was positive and severe immunodeficiency with a CD4 cell count of 2 c/mm³ and a high HIV load was detected (log 5.72 cp/ml). Scrapes from both lateral borders of the tongue were obtained and the detection of EBV by PCR confirmed the diagnosis of oral hairy leukoplakia. The clinical suspicion of Kaposi sarcoma was histologically confirmed, showing spindle cells lining bizarrely formed vascular structures [Fig 2a] and being partly positive for HHV-8 [Fig 2b]. No involvement of internal organs was detectable,

leading to the diagnosis of disseminated cutaneous Kaposi sarcoma. Microscopic analysis of the anal ulceration showed granulation tissue and repetitive serological testing for syphilis and herpetic infection was unremarkable, thus confirming the initial diagnosis of posterior anal fissure.

Figure: 2

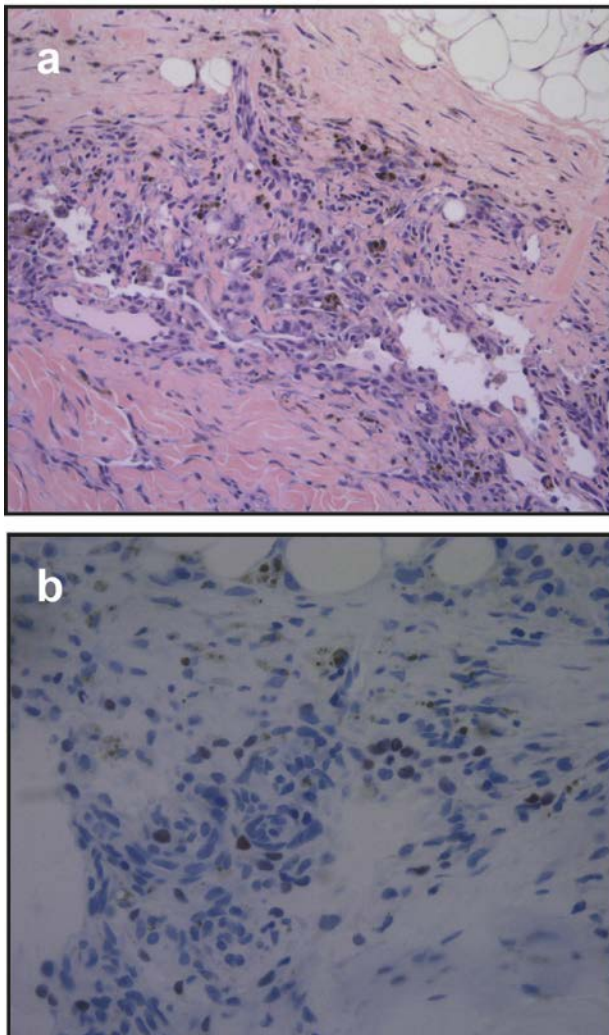


Figure 2: (a) Skin biopsy demonstrating numerous spindle cells and atypical vascular structures. (b) Immunohistochemical detection of HHV-8

Based on the diagnosis of AIDS and concomitant Kaposi sarcoma, cART containing a boosted protease inhibitor was started as well as antibiotic prophylaxis with cotrimoxazol/sulfamethoxazol.

Discussion

This case highlights the importance of testing for HIV in patients presenting with certain indicator diseases to establish an early diagnosis [3, 5, 6]. In particular, the occurrence of multisegmental herpes zoster in a young patient one year before attending our clinic represents a missed opportunity to test for HIV and, consequently, to avoid further morbidity in our patient as well as unintentional transmission of HIV. In general, just the knowledge of being HIV positive decreases the spread of HIV.

Recently it was shown that 2.89% (95% CI 1.07-6.21) of all patients presenting with herpes zoster are HIV positive compared to the respective country HIV-prevalence of 0.1 – 0.4 % [6]. Apart from preventing detrimental health issues and the spread of HIV due to the untreated HIV infection, the approach of indicator disease-guided testing has been shown to be cost effective for a number of indicator diseases showing an HIV prevalence of greater than 0.1% including STI, malignant lymphomas, cervical or anal dysplasia, herpes zoster, hepatitis B or C, ongoing mononucleosis-like illness, unexplained leukocytopenia or thrombocytopenia lasting longer than 4 weeks and seborrheic dermatitis [7-9]. Of note, various illnesses are directly related to HIV infection owing to extended deficits of the cellular immunity such as oral hairy leukoplakia or Kaposi sarcoma and should consequently always lead to HIV testing [3]. In addition, this case emphasizes the importance of identifying the cause of idiopathic pruritus, especially given the high prevalence of pruritus in HIV infected patients [10].

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