

Primary HIV infection: a challenge for Pacific clinicians

PATRICIA RUZE, MD*

Introduction

This is a case report of a man in the USA who presented with primary HIV infection, or the acute HIV syndrome. Clinical and laboratory features of the acute HIV syndrome are discussed, including their relevance to health care providers in Pacific island countries.

The patient

A 37 year old health care professional presented to the outpatient clinic complaining of sunburn. He had developed a rash after mowing his lawn four days prior to his visit. He did not complain of pain or itching of the rash.

Past medical history: The patient admitted to the usual coughs and colds, but was unaware of any chronic diseases. He had never been hospitalized. He was married with three children, but had been recently separated from his wife and children. He stated adamantly that he was not a homosexual. He was unemployed having recently lost his position at a major university research center. He admitted to alcohol use, and concedes that he may have been drinking heavily since his wife left him one month ago. He usually consumed three to four mixed drinks daily, and has had several episodes of binge drinking in the last month. He denied any use of intravenous, or other illegal drugs, excepting marijuana while he was in college. The patient travelled to Paris last year on a business trip. There was no other travel.

Examination: This revealed a well nourished, neat, alert and cooperative man. He appeared anxious. Vital signs included a temperature of 100.9 °F, respiratory rate of 16 per minute, blood pressure of 140/80 and pulse of 104 per

minute. Examination of the head was unremarkable and no abnormal oral lesions were found. Genital examination revealed a normal circumcised penis with a 1-2mm painless ulcer on the dorsal shaft. The scrotum and testis were normal. The anal area showed several external hemorrhoids but no anal lesions. Examination of the skin showed a diffuse, confluent, erythematous, papular rash over the chest, back, arms and legs. There were no vesicles or other discrete lesions. There were no areas of redness at the sleeve, shorts, sock or shoe border. There were no purplish lesions or tattoos.

Because it seemed unusual that this patient has waited approximately four hours to be seen for a sunburn along with his apparent anxiety and the presence of the penile ulcer, further sexual history was sought, with difficulty. The patient stated this time that one month prior to this outpatient visit, he became drunk and had his first homosexual encounter with an acquaintance. He also stated that thirteen days ago, while intoxicated, he had sex with a man who came to his house asking for money. On both occasions the patient had anal receptive intercourse.

Laboratory studies: These were done for HIV-1 (Elisa and Western-Blot), p24 antigen, hepatitis serologies, full blood count, electrolytes and liver function tests. All were within normal limits. The patient was counseled about safe-sexual practices, substance abuse and depression. The patient

returned for several follow up visits. His penile lesion and rash resolved three days later. The patient appeared confident that he had experienced 'merely a sunburn'.

He was also working out his marital difficulties.

Ten days after his initial visit, the patient was seen for repeat HIV testing. This time the test was reported by the laboratory as 'indeterminate'. A repeat one week later was reported as 'indeterminate/borderline positive'. Subsequent testing for HIV was positive and a diagnosis of primary HIV-1 infection was made.

Discussion

This case highlights some interesting challenges of increasing concern for Pacific island health care providers. To date,

The patient appeared confident that he had experienced 'merely a sunburn'."

* Assistant Professor, Pacific Basin Medical Officers Training Program, P O Box 1298, Pohnpei 96941, Federated States of Micronesia.

physicians and health care providers in some the Pacific islands have had experience with previously diagnosed HIV cases, most of whom have acquired the infection abroad. Luckily, most have had little experience with primary HIV infection. This may change soon.

While diagnosing new infection in a university-affiliated tertiary care hospital in the USA has been fraught with difficulties, accurate diagnosis of primary HIV infection is a even more daunting task in the Pacific. To best meet this challenge, clinicians practicing in the Pacific will need to be familiar with the presentation of primary HIV infection (also known as the acute HIV syndrome).

There is controversy regarding what percentage of patients with HIV-1 actually develop a symptomatic primary infection. Some experts assert that the acute HIV syndrome is relatively uncommon, citing several studies including the San Francisco Men's Health Study, where only 4.3% of the men who seroconverted reported an illness consistent with acute HIV syndrome during the six months before seroconversion¹. Other researchers argued that the frequency of symptomatic primary HIV-1 infection may be as high as 50 to 70%, and suggested that the low incidence of primary infections cited by others are retrospective, based on patients' recall of events three to twelve months earlier, and not focused on the constellation of signs and symptoms now recognized as characteristic of symptomatic primary HIV infection². One prospective study identified a symptom complex of fever, swollen lymph nodes, night sweats, or headaches in 55% of all patients during acute seroconversion³.

The acute HIV syndrome appears very much like any other acute viral syndrome. The symptoms usually have a sudden onset, and last from three to 14 days⁴. Patients with primary HIV infection present with fever, pharyngitis, lymphadenopathy, headache, eye pain, arthralgia, myalgia, lethargy, malaise, anorexia, weight loss, nausea, vomiting, diarrhea, and erythematous maculopapular rash or mucocutaneous ulceration, and less commonly, meningitis, encephalitis, peripheral neuropathy, and myelopathy⁵. The rash that occurs during the acute illness is possibly the most valuable clue to primary HIV infection. It is a roseola-like viral exanthem, mainly on the trunk and limbs, usually lasting about two weeks⁶.

Laboratory testing for early primary HIV infection is difficult and controversial¹. The most widely used blood tests for HIV are the ELISA (the enzyme linked immunosorbent assay) and

the Western-Blot. These are both antibody tests for HIV-specific proteins. As such, most of these blood tests will likely become positive between two and four months after infection⁷. Viremia will begin shortly after infection, and HIV test or the p24 antigen (which identifies the p24 viral core protein) test should become positive shortly after exposure, as in the above case.

Although highly specialized testing facilities are not widely available in the Pacific islands, this case illustrates that use of these testing modalities is new and still fraught with difficulties in interpretation. For clinicians practicing where laboratory facilities are limited, a meticulous history, including repeated social, sexual and travel histories is critical to identify primary HIV infection. Patient denial as well as taboos on discussing sexuality and substance abuse present formidable obstacles to the primary care health workers. One must overcome these obstacles in a manner sensitive to the cultural characteristics of the Pacific peoples.

Unfortunately, as HIV-1 envelops the Pacific, clinicians in the island paradise will increasingly need to include primary HIV-1 infection in their differential diagnoses for patients presenting with any seemingly benign viral syndrome.

“ While diagnosing new infection in a university-affiliated tertiary care hospital in the USA has been fraught with difficulties, accurate diagnosis of primary HIV infection is a even more daunting task in the Pacific. ”

References

1. Busch M, El Amad Z, Sheppard H, et al. Letter to the Editor. *New England Journal of Medicine*, 1991;325(10):733.
2. Clark S, Saag M, Hahn B, et al. Letter to the Editor. *New England Journal of Medicine*, 1991;325 (10):734-735.
3. Fox R, Eldred L, Fuchs E, et al. Clinical manifestations of acute infection with human immunodeficiency virus in a cohort of gay men. *AIDS*, 1987; 1:35-38.
4. Cooper D, Maclean P, Finlayson R, et al. Acute AIDS retrovirus infection. *Lancet*, 1985;1:537.
5. Tindall B and Cooper D. Primary HIV infection: host responses and intervention strategies. *AIDS*, 1991;5:1-14.
6. Yarchoan R and Pluda J. Clinical aspect to infection with AIDS retrovirus: acute HIV infection, persistent generalized lymphadenopathy, and AIDS related complex. In *AIDS: Etiology, Diagnosis, Treatment, and Prevention*, 2nd Edition, edited by V Devita, S Hellman and S Rosenberg. Lippincott, Philadelphia; 1988 p109.
7. Allen J. Screening and testing asymptomatic persons for HIV infection. In *AIDS: Etiology, Diagnosis, Treatment, and Prevention*, 2nd Edition, edited by V Devita, S Hellman, S Rosenberg. Lippincott, Philadelphia; 1988 p423. □