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Epidemiologic Notes and Reports

ACQUISITIONS

AIDS Due to HIV-2 Infection — New Jersey

The first reported case of AIDS caused by human immunodeficiency virus type 2 (HIV-2) in the United States was diagnosed in December 1987. The patient, a West African, came to the United States in 1987. In December, the patient visited a physician because of a 3-year history of weight loss and recent onset of neurologic symptoms. A CAT scan of the head revealed mass lesions that biopsy showed to be caused by *Toxoplasma gondii*. Biopsy of a lymph node revealed acid-fast bacteria.

The patient did not give a history of sexual intercourse, use of nonsterile needles, or donation of blood while in the United States. All family members and household contacts, both in the United States and abroad, are reported to be well.

Because the diagnosis of cerebral toxoplasmosis without other underlying cause of immunodeficiency fits the CDC surveillance definition for AIDS, laboratory evidence of infection with HIV was sought. Testing of the patient's serum revealed a negative enzyme immunoassay (EIA) for antibody to HIV-1 with an indeterminate HIV-1 Western blot. However, EIA for antibodies to HIV-2 (Genetic Systems Corporation, Seattle, Washington [research test kit]) was repeatedly reactive and HIV-2 Western blot revealed bands for antibodies to *gag* (p26), *pol* (p34), and *env* (gp140) proteins. DNA amplification by the polymerase chain reaction technique with HIV-1-specific and HIV-2-specific DNA probes (1) revealed HIV-2 DNA but not HIV-1 DNA in the patient's lymphocytes and confirmed the diagnosis of HIV-2 infection.

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Editorial Note: This patient represents the only documented case of HIV-2 infection in the United States. HIV-2 is closely related to HIV-1 and was first reported to be associated with AIDS in 1986 in West Africa, where the virus is believed to be endemic (2-8). Several well-documented cases of HIV-2 infection have also been reported among Europeans and among West Africans residing in Europe (3,4,8). The spectrum of disease and modes of transmission of HIV-2 are similar to those of HIV-1 (2-5). These modes of transmission include sexual intercourse; however, infected

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persons present no risk to nonsexual household contacts (9). The present case undoubtedly represents infection acquired in West Africa since illness began before the patient's arrival in the United States. The patient has had no known activities that would have exposed others in this country to HIV-2.

Because of the reports of HIV-2 infection in West Africa and Europe, CDC and the Food and Drug Administration (FDA) initiated surveillance for HIV-2 in the United States in January 1987. To date, CDC, FDA, and collaborating investigators have screened 22,699 serum samples with anti-HIV-2 EIA (10). Of these specimens, 14,196 (63%) were from individuals whose activities placed them at increased risk for HIV-1 infection and who would, therefore, potentially be at risk for HIV-2 infection. The remaining 8,503 were from asymptomatic blood donors randomly selected from three areas of the United States, two of which have reported large numbers of AIDS patients. Overall, 35 (0.2%) of the serum samples were reactive by anti-HIV EIA using HIV-2 antigens but not by anti-HIV EIA using HIV-1 antigens. However, none of these EIAs could be confirmed when tested by HIV-2-specific Western blot. An additional 70 (0.3%) of the samples were reactive by Western blot with *gag*, *pol*, and *env* antigens of both HIV-1 and HIV-2. All of the dually reactive specimens were from individuals whose activities placed them at increased risk for HIV-1 infection. None were from the randomly selected blood donors. Sera from these dually reactive subjects were studied for the presence of type-specific neutralizing antibody to HIV-1 or HIV-2, antibody to synthetic peptides specific for HIV-1 or HIV-2 (Genetic Systems Corporation, Seattle, Washington [research test kit]), or HIV-1 and HIV-2 DNA by DNA amplification (1). Sixty of the subjects were shown to be infected with HIV-1 but not HIV-2. Ten are still under investigation.

It is reassuring that HIV-2-specific tests on sera from 22,699 persons, including 8,503 randomly selected U.S. blood donors, failed to reveal HIV-2 infection. However, the occasional presence of this virus in the United States, as in Europe, should be anticipated. The anti-HIV-1 EIA tests currently used for screening all U.S. blood donors are estimated to detect 42% to 92% of HIV-2 infections (4,11). Surveillance for HIV-2 in the United States is being continued to monitor the frequency of infection. Because the modes of transmission of HIV-1 and HIV-2 are similar, preventive measures for these related viruses are the same (12).

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*Current Trends***Continuing Increase in Infectious Syphilis — United States**

Through the first 46 weeks of 1987, 31,323 cases of infectious (primary and secondary) syphilis were reported to CDC through the *MMWR* Morbidity Surveillance System. This total exceeds the number of cases reported for the same period in 1986 by 32%. The projected annual incidence of infectious syphilis for 1987 is 14.7/100,000, which would be the highest rate since 1950. While 56% of all cases and 83% of the increase were reported from Florida, New York City (NYC), and California, 25 of the other 49 reporting areas also had increases. Nine areas had absolute increases of over 100 cases; in two of these areas, the relative increases were over 100% (Table 1). With the exception of Oregon and Connecticut, areas with high incidence rates experienced the greatest increases. Texas, with a 22% decrease in reported cases, and Louisiana, with a 9% decrease, were notable exceptions to the overall pattern of increase.

Fourteen areas reporting increases and five reporting decreases during the first 8 months of 1987 were asked to provide data on patients' race, sex, and sexual preference for further analysis. Overall, the areas providing this supplementary information contain 51% of the U.S. population and 79% of the syphilis cases reported through the first 46 weeks of 1987.

In the 14 areas reporting increases (13 states and NYC), relative increases were greatest for females and heterosexual males of all racial/ethnic backgrounds (Table 2). The greatest absolute increases occurred among blacks. The increase for males occurred among heterosexual males, and the decrease among homosexual/bisexual males occurred primarily among white males (1). Exceptions to this overall