LETTERS TO THE EDITOR

Dear Sir:

In the paper by Young and others,1 we reported on the estimated incubation period for hantavirus pulmonary syndrome (HPS). Review of HPS cases entered in the HPS disease registry, maintained by the Centers for Disease Control and Prevention (CDC), indicated a median of 14–17 days and a range of < 1 to 33 days between exposure to Sin Nombre virus (SNV) and onset of symptoms. Subsequent to acceptance of this manuscript for publication, we identified a case of HPS which suggests that the upper limit of this range may be higher than that originally reported.

In May 2000, the California Department of Health Services (CDHS) identified HPS in a 20-year-old male resident. The patient had onset of fever, muscle ache, and cough on May 14. Serum collected on May 19 tested positive for IgM and IgG to SNV at both the CDHS Viral and Rickettsial Diseases Laboratory and the CDC Special Pathogens Branch Laboratory.

The patient reported having traveled to New Mexico on March 23–29 with a church group where he worked on American Indian reservations, performing maintenance and repair of buildings, including cleaning out reportedly rodent-infested sheds. Extensive interview of the case-patient did not identify any other travel or activities that placed him at risk for exposure to rodents. On the basis of the likely exposure in New Mexico, the estimated incubation period was 46–51 days.

This case provides evidence that the range of incubation for HPS may be greater than previously estimated. Most persons infected with SNV will develop non-specific febrile prodromal symptoms (e.g., fever, headache, myalgia) 1 to 3 weeks after exposure. Nevertheless, physicians should inquire of patients with compatible symptoms if they have had known or suspected exposure to deer mice or their excreta within the past 6 weeks.

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Dear Sir:

In a recent issue of the American Journal of Tropical Medicine and Hygiene, Bern and others1 described the field performance of two serologic tests, the direct agglutination test (DAT) and the K39 dipstick test (rK39) to diagnose visceral leishmaniasis (VL). The sensitivity of both tests in the VL-endemic districts of Dhansusha, Mahottari and Siraha in Nepal was 100%. The specificities for rK39 and DAT were 100% and 93%, respectively. Unfortunately, no information was given about the HIV infection status of the VL cases or the controls.1 HIV immunoreactivity could vitiate the excellent sensitivity or specificity of DAT and rK39 assays. Serum samples from the subjects, if available, could be tested for antibodies to HIV-1 and HIV-2.

Co-infection with HIV would lead to a relapsing VL but a poor serologic response. In Spain, among 120 VL cases including 80 with an HIV co-infection, the sensitivity of serologic investigations was significantly lower among those connected with HIV.2 Even in Nepal, HIV seropositivity would vitiate the observed sensitivity and specificity with serologic tests.1

The utility of DAT and rK39 to diagnose VL in children who were perinatally infected with HIV needs to be evaluated. The diagnosis of VL in a Brazilian child, who was perinatally infected with HIV and showed the classical clinical picture, was by demonstration of amastigote forms in bone marrow.3 The manufacturers of different VL serological assays should better indicate the possibility of poor performance of such products among those co-infected with HIV/AIDS.

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Dear Sir:

Dr. Arya questions whether HIV co-infection may have affected the performance characteristics of the rK39 dipstick test and the direct agglutination test (DAT) in our visceral leishmaniasis (VL) case-control study in rural Nepal. The most recent available data indicate that HIV-seroprevalence is less than 1% in the general population in rural areas of Nepal. Among our 205 participants, therefore, fewer than 3 were likely to have been HIV-seropositive, a rate that would have had little effect on our estimates of sensitivity and specificity. Nevertheless, Dr. Arya’s concern is justified, since high-risk groups in Nepal already have high rates of HIV-seropositivity, and VL/HIV co-infection will undoubtedly be an increasing problem in the future.

Because HIV co-infected patients mount a lower anti-\textit{Leishmania} antibody response, serologic test sensitivity is lower and more variable than in HIV-negative VL patients. In VL/HIV co-infection, the rK39 antigen-based ELISA and immunoblotting are reported to be superior to conventional serologic techniques such as the DAT and indirect immunofluorescence; however, these tests also show significantly lower sensitivity than in immunocompetent VL patients.

For the same reason, the rK39 dipstick would be expected to be less sensitive in HIV co-infected VL patients. An explicit evaluation of the dipstick test, including a sufficient number of well-characterized VL/HIV co-infected patients, would be useful. However, demonstration of \textit{Leishmania} parasites in bone marrow aspirate, either by visualization or culture, remains the most reliable diagnostic technique in the setting of HIV co-infection.

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