Seroprevalence of *Bartonella henselae* among HIV-1 Infected Patients in Japan

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Introduction

*Bartonella henselae*, the main etiological agent of cat scratch disease, was first identified as the causative agent of bacillary angiomatosis, a disseminated infection seen in immunocompromised patients⁰. The benign and self-limited nature of *Bartonella henselae* infections may become life-threatening in the immunocompromised host. Immunodeficiency virus type 1 (HIV-1) infected patients may be at risk to *B. henselae* infections, including cat scratch disease, cutaneous bacillary angiomatosis, bacillary peliosis hepatis, fever with bacteremia, encephalopathy, and endocarditis². We investigated the prevalence of *B. henselae* antibodies among HIV-1 seropositive patients in Japan.

Materials and Methods

Frozen plasma samples from 157 HIV-1 seropositive patients were tested by indirect fluorescence antibody (IFA) assay ³⁻⁵ for antibodies to *B. henselae*. Neither data on pet ownership nor detailed clinical features were collected. The sera from 253 healthy individuals were used as controls. Titers of ≥1: 64 for IgG, and of ≥1: 20 for IgM were considered positive.

Results

Of the 157 HIV-1 infected patients, 15 (9.6%) were seropositive for IgG antibody to *B. henselae*, with titers being 1: 64 in 8, 1: 128 in 5, and 1: 256 in 2. IgM antibody to *B. henselae* was negative in all patients. The risk factors related to the acquisition of the HIV infection in these patients were as follows: 10, sexually infected; and 5 blood products (hemophiliacs). The CD4+ cell count of these 15 patients ranged from 6 to 462/µl. Of the 253 healthy individuals, IgG antibody to *B. henselae* was elevated in 14
(5.5%), with titers being 1:64 in 9 and 1:128 in 5, whereas IgM was negative in all individuals. Thus, both HIV-1 seropositive patients and healthy individuals had evidence of previous B. henselae infection, and the frequency rate of IgG antibody in the HIV-1 infected patients was slightly higher than that of the controls although no statistically significant difference was observed.

**Discussion**

To our knowledge, the prevalence of antibody to B. henselae among patients infected with HIV has been reported twice. Schwartzman et al. reported that IgM antibodies to B. henselae were detected in 10 (8.6%) of 116 HIV-seropositive individuals with dementia or neuropsychological deterioration and in 2 (1.8%) of 113 HIV-seropositive control patients, whereas IgG antibodies were detected in 23 (10%) of 229 HIV-seropositive patients. Yousif et al. reported that 9 (16%) of 56 HIV-seropositive patients in Bahrain had IgG antibody to B. henselae. Our findings also support these observations, and B. henselae infections in HIV-seropositive patients seems to exhibit high frequency in some races.

The higher prevalence of IgG and IgM antibodies to B. henselae might be explained by increased persistent B. henselae infections or higher rate of pet ownership among HIV-infected patients. HIV-seropositive patients who own pets such as a cat or dog may be at risk to developing B. henselae infection. In HIV-seropositive patients, inquiry about pet ownership may be recommended for early detection and immediate intervention of B. henselae infections.

**References**