

Short communication

## Prevalence of *Bartonella* infection among patients with fever

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***Bartonella henselae* has been associated with an increasing spectrum of clinical syndromes including cat scratch disease. The prevalence of *Bartonella* infection among patients with unexplained fever in San Francisco was much greater than has previously been documented. However, out of 29 Japanese children with fever of unknown origin, only one had serum IgG antibody to *B. henselae*. Although general prevalences of serum antibodies to some infectious agents in healthy adults are higher than those of healthy children, the prevalence of *B. henselae* infections in Japanese population is not so high as expected.**

**Key words:** *Bartonella henselae*, cat scratch disease, fever of unknown origin.

Koehler et al. (2003) hypothesized that *Bartonella* infection represents an under-recognized cause of febrile illness. They reported that 18% of patients with fever in San Francisco had evidence of *Bartonella* infection detected by culture, indirect fluorescent antibody testing, or PCR. The prevalence of *Bartonella* infection among patients with late-stage HIV infection and unexplained fever was much greater than has previously been documented.

Recently *Bartonella henselae* has been associated with an increasing spectrum of clinical syndromes including cat scratch disease (CSD) (Anderson and Neuman, 1997). Infection with *B. henselae* results in symptoms with varied severity ranging lymphadenopathy only to systemic disease. *Bartonella* infection can be difficult to diagnose, especially when it manifests as bacteremia, which is usually accompanied by nonspecific symptoms, such as fever (Koehler et al., 2003). In the review of *Bartonella* infection in animals, Breitschwerdt and Kordick (2000) report that persistent infections in domestic animals result

in a substantial reservoir of *Bartonella* organisms in nature that can serve as a source for inadvertent human infection.

We determined serum IgG and IgM antibodies to *B. henselae* from Japanese pregnant women and children by the indirect fluorescence antibody assay (Numazaki et al., 2000). Out of 200 health normal pregnant women, two (1.0%) had serum IgG antibodies to *B. henselae*. On the other hand, out of 31 children with cervical lymphadenopathy three (9.6%) had serum IgG antibody to *B. henselae*. However, out of 29 children with fever of unknown origin, only one had serum IgG antibody to *B. henselae*.

Several studies and publications have suggested that domestic cats are the main reservoir for *B. henselae*. There are an estimated 24,000 cases of CSD yearly, resulting in 2,000 hospital admission in the United States (Zangwill et al., 1993). Although systemic disease caused by *B. henselae* is more frequent in immunocompromised patients, involvement of organs in immunocompetent

individual has been reported. Common clinical appearance of CSD in human is associated with self-limited regional lymphadenopathy, fever and general malaise.

Although general prevalences of serum antibodies to some infectious agents in healthy adults are higher than those of healthy children, the prevalence of *B. henselae* infections in Japanese population is not so high as expected. Nevertheless, serological positivity in some patients indicates that infections caused by this microorganism should be considered in conditions such as fever of unknown origin or lymphadenopathy (Numazaki et al., 2000).

For the majority of Japanese patients with *B. henselae* infection, routes of transmission are still unknown. Although *Bartonella* infection should be focused as the zoonotic potential for human infection, non-zoonotic route of transmission may exist.

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