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BARTONELLA SPECIES IN HUMAN AND ANIMAL POPULATIONS IN GAUTENG, SOUTH AFRICA, 2007-2008

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Bartonella is a genus of fastidious bacteria responsible for a wide range of both symptomatic and asymptomatic infections. Bartonellae are often considered obligate pathogens where infection is concurrent with immunological suppression of the host. The objectives of this study were: to determine the prevalence of *Bartonella* infections in HIV-positive patients presenting for treatment at a Gauteng HIV-clinic, to determine the extent of bartonellae affecting the healthy population, to determine the seroprevalence of *Bartonella henselae* and *Bartonella quintana* antibodies in HIV-negative antenatal patient sera taken from various maternity units in Gauteng public hospitals, and to investigate cats, dogs, and rodents in Johannesburg for carriage of bartonellae. A total of 382 HIV-positive patients attending the HIV clinic and 42 clinically healthy volunteers agreed to participate. Three-hundred and forty-two residual sera from the national antenatal survey were selected and tested for IgG and IgM antibodies against *Bartonella.* There were 179 dogs, 98 cats and 124 rodents enrolled in this study. The seroprevalence for *Bartonella* in humans was carried out using IgG and IgM commercially available kits. HIV-positive patients were found to have 32% IgG and 14% IgM seroprevalence, whereas the healthy volunteers had a lower IgG (19%) and higher IgM seroprevalence than the HIV-positive counterparts. All blood samples were cultured, but only the cat and rodent specimens yielded isolates. These were sequenced for species identification. The cat isolates were 99 and 100% similar to *B. henselae* URBHLIE 9 previously isolated from a patient with endocarditis, and the rat isolates were 98 – 99% similar to either RN24BJ (candidus '*B. thailandensis*') or RN28BJ, previously isolated from rodents in China. The PCR prevalences were: 22.5% in HIV-positive patients; 9.5% in clinically healthy volunteers; 23.5% in cats; 9% in dogs; and 25% in rodents. Findings of this study have important implications for HIV-positive patients.