

Seropositivity of *Bartonella henselae* in cat scratch disease suspected patients in Malaysian population 2017-2019

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ABSTRACT

Introduction: *Bartonella henselae* is an aerobic, facultative intracellular, gram negative bacillus and fastidious bacterium. It can cause a worldwide preventable zoonotic disease called Cat Scratch Disease (CSD). The predominant features are tender, unilateral lymphadenopathy and general symptoms such as prolonged fever, malaise and headaches. **Objective:** The aim of this retrospective study was to determine the seroprevalence of *B. henselae* in CSD suspected patients within three years 2017-2019 in Malaysia. **Materials and methods:** There were a total of 2481 serum of CSD suspected patients sent to Institute of Medical Research (IMR) from 2017-2019. Serum samples were tested for the detection of specific human antibodies to *B. henselae* IgM and IgG using indirect immunofluorescent antibody (IFA) test. Titre IgM of $\geq 1:12$ and IgG of $\geq 1:64$ was considered seropositive. **Results and conclusion:** There were 2481 serum tested and 49.8% were IgM seropositive. About 69% (1589/2307) were IgG seropositive. The highest state with IgM seropositive samples were Selangor (11%) followed by Sabah (6%) and Johor (6%). Seropositivity of IgG also showed similar result (Selangor, 15.3%; Sabah, 9.6%; Johor, 7.7%). The highest titre of IgM was $\geq 1:24$ (42.7%; 1059/2481) and Selangor state had the highest titre of 9.3% compared to other state. The highest titre of IgG was $\geq 1:128$ (54.4%; 1254/2307) and Selangor state had the highest titre of 11.7%. Patients in age group of 30-50years old had highest in both IgM and IgG seropositivity compared to the other age group respectively (16.2%, 21.8%). There was no gender difference in seropositive samples in this study. Study findings shows that CSD is endemic in Malaysia. It provides an epidemiological and serological framework for future CSD studies in human. CSD is common and medical staffs need to have high suspicion to diagnose CSD due to its high seropositivity rate.