Isolation and Molecular Identification of Bartonellae from Wild Rats (Rattus Species) in Malaysia

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Abstract

This study describes our investigation on the prevalence and molecular identification of bartonellae from Rattus diardii and R. norvegicus in the urban areas of Malaysia. Of 95 rats investigated, Bartonella tribocorum, B. rattimassiliensis, B. coopersplainsensis, B. elizabethae, and B. queenslandensis were isolated from kidney and spleen homogenates of four rats. Bartonellae DNA was amplified from the rat organ tissues by using primers specific for the bartonellae RNA polymerase beta subunit (rpoB) gene in nine other rats. Sequence analysis of the rpoB gene fragments shows the identification of B. queenslandensis in five rats, B. elizabethae in three rats, and B. tribocorum in one rat. Combining the results of isolation and molecular detection of bartonellae, we found that the prevalence of Bartonella infection in the Rattus spp. investigated in this study was 13.7%. Implementation of effective rat control program in the urban areas is necessary to prevent the spillover of bartonellosis from rats to humans.

Footnotes

Financial support: This study was supported by grants HIR/E000013-20001 (subprogramme 4) and RP013A/2012 from University of Malaya, Kuala Lumpur, Malaysia.

Received May 20, 2013.
Accepted February 24, 2014.
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