

Cross-reactivity of antibodies to viruses belonging to the Semliki forest serocomplex

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To the editor: We read with interest the paper by Receveur *et al.* describing an infection with Mayaro virus in a French traveller returning from the Amazon region [1]. We agree that this communication is of clinical relevance because Mayaro virus infections are relatively unknown and easily misdiagnosed on clinical grounds as dengue fever.

Although Mayaro virus has been reported to be a member of the Semliki forest serocomplex [2] – clustering with old world alphaviruses such as Chikungunya virus, with their clinical manifestations of fever and arthralgias – Mayaro virus infections are as yet confined to South America. The other alphaviruses that occur in South America belong to the so-called new world alphaviruses such as eastern equine encephalitis virus, western equine encephalitis virus, Venezuelan equine encephalitis virus. The clinical manifestations are characterised by central nervous system manifestations but not by arthralgias.

Small outbreaks of Mayaro virus infection have been registered in areas near tropical rain forests in various South American countries including Brazil and Suriname [3] but infections outside these endemic foci are rare, particularly in travellers. In 1966, Metselaar described a Mayaro virus infection in a son of a Dutch military man, living in the Coronie District in Suriname [4]. In January 2008, we diagnosed Mayaro virus infection in a Dutch couple who presented with intractable arthralgias after visiting the interior of Suriname (manuscript submitted). In serological tests using enzyme-linked immunosorbent assay (ELISA), we detected cross-reactivity of antibodies for Chikungunya virus and Mayaro virus. As mentioned earlier, both alphaviruses belong to the same antigenic complex, the Semliki forest serocomplex. Seroneutralization tests were therefore necessary to demonstrate the specificity of the antibody for Mayaro virus. Receveur *et al.* seem not to have used these seroneutralization tests. Currently, cross-reactivity in serological tests does not seem to be of major importance for diagnosis since Chikungunya viral infections do not occur in South

America. However, with the increase of international travel and the spread of potential vectors as a consequence of global warming and intensification of trade, infections caused by arthropod-borne viruses are likely to expand on a global scale and may result in overlapping regions of endemicity. This cross-reactivity between alphaviruses should be borne in mind, in particular when ELISA is used for serological diagnosis of the causative virus. Additional seroneutralisation tests should be carried out to establish the virus specificity of the antibody.

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