c Cluster of Sindbis virus infections in Gauteng Province: an update

In the first two months of 2017, a more than usual number of people in the northern suburbs of Johannesburg reported to their healthcare providers with a rash, in addition to one or more symptoms of mild fever, arthralgia, headache, nausea, myalgia and/or severe fatigue.

Investigation and laboratory analysis of the patients by the NICD confirmed a diagnosis of Sindbis infection in a majority of the rash cases. As of 14 March 2017, a total of 33 suspected cases has been referred for testing. IgM antibodies were demonstrated in serum samples from seventeen patients, indicating recent infection with Sindbis virus. Paired sera, taken 2 weeks apart to detect a significant rise in antibody titre, confirmed the diagnosis of Sindbis virus infection in 8 patients.

No virus-specific genetic material could be detected in any of the cases, despite employing alphavirus-generic and Sindbis virus-specific PCR assays, presumably due to the typically transient and low viraemia caused by infection with Sindbis virus. The clinical course of Sindbis infection is usually mild and self-limiting and recovery uneventful.

Sindbis virus is a mosquito-borne arbovirus and is maintained in nature in a mosquito-bird cycle. Humans are incidentally infected through mosquitoes and are effectively dead-end hosts for Sindbis virus.

The recent outbreak has not been unexpected after an increase in mosquitoes was seen with the improvement in summer rainfall to near-normal levels from November to January after the 2016 drought. The outbreak-affected area is suburban with numerous green areas and water sources with ample birdlife. March typically coincides with the greatest population density of the Sindbis (and West Nile) virus vector mosquito on the South African inland plateau, or 'highveld' and, as a result, an increase in Sindbis virus activity. Between 20 and 30 sporadic cases of Sindbis fever are confirmed annually in patients from South Africa.

A large epidemic of Sindbis fever was documented in the Karoo in 1974 with about 4000 infected human cases. Smaller outbreaks occurred in 2010 and earlier with a dozen to hundreds of humans affected. The reported Sindbis cases likely represent a fraction of the true number due to the mild and non-specific clinical presentation of Sindbis fever.

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