ZOONOTIC AND VECTOR-BORNE DISEASES

An update on rabies in South Africa

Two additional cases of human rabies have been confirmed in South Africa since the last report. The first case involved a 9-year-old boy from Matangari, Thohoyandou, Vhembe District, Limpopo Province. A dog bit the boy in December 2020. Reportedly, rabies post-exposure prophylaxis (PEP) was not sought after the exposure. The child showed general weakness, pupil dilation and hypersalivation, and died in January the day after hospital admission. A sample of saliva obtained from the child upon admission tested positive for rabies nucleic acid, confirming that the child had died of rabies. Since the infection was acquired in 2020, this case will be reported in the 2020 statistics. Therefore, the total number of laboratory confirmed human rabies cases for 2020 is eight. These cases have been reported from KwaZulu-Natal (n=6) and Limpopo (n=2) provinces, including the case reported here.

A recent case of human rabies was also laboratory confirmed on 15 February 2021 in a 2-year-old boy from eNgonyameni, near uMlazi (south of eThekwini District) in KwaZulu-Natal Province. This was the first report of human rabies in 2021. The child sustained an injury on his head while playing with a dog in the last week of January 2021. The boy was taken to hospital, but reportedly no rabies PEP was administered. Purportedly, the dog died. The boy was admitted to a hospital on 10 February with fever, nausea, vomiting, tiredness, muscle spasm, hypersalivation, hydrophobia, confusion, agitation, hyperactivity and aggressive behaviour, and died the following day. A single saliva sample, collected before the patient died, tested positive on rabies RT–PCR.

The COVID-19 epidemic in South Africa has affected the control and prevention of rabies. As expected, dog owners and communities were less involved in the vaccination of their pets. Vaccination of dogs (and cats) remains the single most important intervention in the control and prevention of rabies. In South Africa, the majority of cases of human rabies are linked to dog bites, so controlling the disease in these animals prevents the spread of the disease to humans. Furthermore, as COVID-19 has modified care seeking behaviour and access to health services, access to rabies PEP may also have been affected. Since there is no treatment for clinical rabies disease, rabies PEP is the only approach to the prevention of rabies infection once exposure has occurred.

For more information on rabies and how to prevent infection, please visit the NICD website: https://www.nicd.ac.za/diseases-a-z-index/rabies/

Alert: Sindbis and West Nile fever

Increased rainfall levels recorded during the last quarter of 2020 and in January and February of 2021 might contribute to enhanced breeding of mosquito vectors and consequently result in increased number of arboviral diseases, such as Sindbis and West Nile fever, in parts of South Africa (see Communicable Diseases Communiqué January 2021, Vol. 20 (1) Alert: Rift Valley fever, p.3-5 (https://www.nicd.ac.za/wp-content/uploads/2021/01/NICD-Monthly-Communiqu%C3%A9-January-2021.pdf). Sindbis and West Nile virus (SINV and WNV) infections are well documented in South Africa during the summer months, especially in years with above average rainfall. These viruses co-circulate as they share common vectors, namely culicine mosquitoes, and avian hosts as reservoirs. Outbreaks of Sindbis and West Nile fevers have been reported simultaneously on the Highveld of South Africa in 1974, 1984, 2004 and 2016/2017, although it is possible that cases may go unnoticed or undiagnosed.

Clinical aspects and laboratory investigation

Typically, a patient infected with SINV or WNV will develop mild-to-moderate headache and myalgia for 1-2 days, followed by a rash initially on the trunk, and progressing over 1-2 days to the limbs, palms and soles. The rash associated in cases with Sindbis fever can include punctate papules on the trunk, limbs, palms and soles, small vesicles on the papules and characteristic halos around the papules. The rash associated with the West Nile fever is normally more diffuse with a maculopapular appearance. The rash eventually resolves after 3-5 days, but a few patients experience arthralgia of the large joints or can even develop joint effusions. Some patients might develop slightly tender generalised lymphadenopathy. The illness is normally self-limiting, but the florid nature of the rash prompts many persons to seek health care. West Nile fever can involve severe illness including neurological symptoms (headache,

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neck stiffness, disorientation, convulsions, muscle weakness, vision loss, numbness and paralysis). People over 60 years of age are at greater risk of developing severe West Nile fever.

The differential diagnosiss of Sindbis and West Nile fevers is broad in the South African context. Cases may go undiagnosed in the face of the current SARS-CoV-2 epidemic in South Africa. It is important to notice that the rash and joint pain associated with arboviral infections are not commonly seen in patients with COVID-19 disease. Tick bite (TBF) fever is also reported during the late summer months in much of South Africa. If a possible diagnosis of TBF is considered, it is important to treat the patient with doxycycline as soon as possible. Malaria is also important to be considered in all persons with acute febrile illness returning from malaria endemic areas.

The Centre for Emerging Zoonotic and Parasitic Diseases offers laboratory testing for Sindbis and West Nile fever. Endemic arboviral disease such as Sindbis and West Nile fever are notifiable category 3 medical conditions in South Africa.

Treatment and prevention

There is no specific antiviral treatment or vaccine available for Sindbis or West Nile fever. Treatment is symptomatic and includes antihistamines for pruritic rash, and non-steroidal anti-inflammatory drugs for joint symptoms. The only preventive measure when living in or travelling in an endemic area of Sindbis or West Nile fever is to avoid being bitten by mosquitoes by using insect repellents, in particular to avoid daytime exposures. For more information, visit the NICD website (https://www.nicd.ac.za/diseases-a-z-index/west-nile-fever/; https://www.nicd.ac.za/diseases-a-z-index/sindbis-fever/).

Alert: Ebola virus disease in Guinea

An outbreak of Ebola virus disease (EVD) in Guinea was declared on the 14th February 2021 (https://www.afro.who.int/news/new-ebola-outbreak-declared-guinea). Three cases were reported from Gouéké, N'Zerekore prefecture. Gouéké is located in the south east of Guinea, about 800 km from the capital Conakry, but about 100 km from various border points with Liberia and Ivory Coast.

The index case involved a nurse who died at the end of January 2021. Following her funeral, six additional cases of persons with EVD-like symptoms were identified.

The WHO reports that efforts are underway to deploy Ebola vaccines (https://www.who.int/medicines/emp_ebola_section/en/), contact tracing and treatment structures to contain the outbreak. The containment responses will strongly hinge on the experience gained during the West Africa EVD outbreak of 2013-2016 and the availability of antiviral treatment and Ebola vaccines.

At this stage of the outbreak the risk of exportation to South Africa is low. On 23 February 2021, there are no confirmed or suspected cases of EVD in South Africa.

More details on this is contained in the 'An update on Ebola virus disease outbreak, DRC and Guinea' article.

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