1 ZOONOTIC AND VECTOR-BORNE DISEASES

a An update on rabies in South Africa

Two additional cases of human rabies have been reported. The first case involved a 25-year-old man from Gcilima, Ugu District, KwaZulu-Natal Province. The man presented to a local clinic on 20 May 2018 with agitation, hydrophobia, restlessness and hypersalivation. He was bitten on his little finger by a dog in February 2018, but did not seek medical treatment as it was only a minor wound. The dog was killed and buried in the yard without further follow up. The patient died on 23 May. A post-mortem-collected brain sample tested positive for rabies.

The second case involved a five-year-old male child from Flagstaff, Eastern Cape Province. He had an encounter with a stray dog mid-May 2018 (of which the details are unclear), and reportedly, no medical follow up was sought thereafter. The child was admitted to an Eastern Cape hospital, presenting with ‘rabies-like’ clinical features and died the following day. Saliva swabs were collected post-mortem but tested negative for rabies – not excluding the diagnosis. No brain sample was collected for testing. In the absence of laboratory verification, but in the light of the clinical presentation and outcome and exposure history, this case is defined as a probable rabies case.

In total, nine human cases of rabies have been laboratory confirmed in South Africa for 2018 to date. These cases were reported from the Eastern Cape (n=4) and KwaZulu-Natal (n=5, including the case reported here) provinces. Two probable cases (including the case reported here) were reported from the Eastern Cape Province.

Rabies in humans is preventable through rabies post-exposure prophylaxis (PEP). Timely treatment is required after possible exposure events and includes a series of rabies vaccinations and in most cases the administration of anti-rabies immunoglobulin. For more information about rabies PEP, visit the NICD website at www.nicd.ac.za. Most human rabies cases relate to exposures involving rabid dogs (and cats). Rabies can be prevented in dogs and cats through rabies vaccination – all pet owners are urged to ensure that the immunisation of their pets is kept up to date.

Clinical rabies disease in humans can be investigated through ante-mortem or post-mortem laboratory testing. The former includes the testing of a series of saliva samples, but also cerebrospinal fluid and nuchal biopsies. The gold standard for rabies laboratory confirmation remains the testing of post-mortem-collected brain samples. Laboratory investigation for rabies is recommended as part of differential diagnosis investigation in cases of fatal viral encephalitis without alternative diagnosis, particularly when history of possible exposure to a dog or cat is reported, but also in the absence thereof. For more information about laboratory investigation of suspected rabies cases, visit the NICD website at www.nicd.ac.za.

Source: Centre for Emerging Zoonotic and Parasitic Diseases, NICD-NHLS; januszp@nicd.ac.za

b Human cases of Rift Valley fever on a farm in the Jacobsdal area, Free State Province

The Department of Agriculture, Forestry and Fisheries notified the National Department of Health (NDOH) and National Institute for Communicable Diseases (NICD) of cases of Rift Valley fever (RVF) in 250 sheep on a farm in the Jacobsdal area of Free State Province, on 16 May 2018 (Figure 1). Mosquito samples collected from the affected farm following the confirmation of animal cases, have all tested negative for RVF virus nucleic acid, suggesting that active transmission has diminished below detectable levels, likely due to onset of winter conditions and consequent decreased mosquito populations. From a total of 22 farm workers or residents, 10 were identified to have been exposed to potentially contaminated animal tissues during the sheep outbreak. Eight individuals tested positive by RVF serological assays at NICD, with four of these regarded as confirmed cases and the other four as probable cases, pending testing of further blood samples. Six of eight individuals reported a history of a mild flu-like illness during the preceding month, while two individuals did not experience any symptoms. No evidence of RVF virus exposure could be found in the remaining two individuals despite them also reporting flu-like illness.

Although RVF outbreaks in SA usually occur at long intervals, the major 2010-2011 outbreak of RVF in SA was preceded by small isolated outbreaks in 2008 and 2009. Therefore, the detection of this isolated outbreak after a period of apparent quiescence, should serve as a warning of potentially more widespread outbreaks in the following couple of years if increased rainfall persists and if farmers do not vaccinate their livestock. Patients presenting with flu-like illness following contact or handling of tissues from diseased livestock should be referred for arbovirus testing at NICD. Healthcare worker guidelines and RVF case investigation forms are available from the NICD website, www.nicd.ac.za.

Source: Centre for Emerging Zoonotic and Parasitic Diseases, NICD-NHLS (januszp@nicd.ac.za)
An update on the diphtheria outbreak in KwaZulu-Natal Province

The outbreak of diphtheria in eThekwini, KwaZulu-Natal Province is currently under control. No further cases of diphtheria have been identified since 17 May 2018. A cumulative total of three diphtheria cases (2 laboratory-confirmed and 1 probable case) including two deaths was reported from eThekwini south sub-district. In addition, one asymptomatic carrier of laboratory-confirmed toxigenic Corynebacterium diphtheriae was identified in a contact epidemiologically linked to two cases (1 confirmed and 1 probable), all from the same household. There was no identifiable link between the household cluster and the index case [NICD Communiqué May 2018, Vol 17(5)].

Outbreak response has included a number of public health interventions, notably case management, contact tracing, provision of chemoprophylaxis to contacts, health promotion activities and vaccination campaigns. Enhanced surveillance is ongoing for any new cases. In addition, molecular characterisation of isolates is being undertaken at the Centre for Respiratory Diseases and Meningitis, NICD.

Although the outbreak is under control, it is crucial that healthcare workers remain vigilant. Accumulation of diphtheria-susceptible individuals results from suboptimal vaccination coverage and waning vaccine-induced immunity. As such, communities (both children and adults) are potentially vulnerable to diphtheria outbreaks. In light of this, clinicians are urged to be on high alert for suspected diphtheria cases and to submit specimens for laboratory testing.

Diphtheria is a vaccine-preventable disease. In South Africa, the Expanded Programme on Immunisation (EPI) childhood immunisation schedule includes six doses of diphtheria toxoid-containing vaccine, given in combination with other antigens in various formulations. The primary vaccination series is given in three doses at 6, 10 and 14 weeks while the booster vaccination series is also given in three doses but at 18 months, 6 and 12 years of age.

Source: Division of Public Health Surveillance and Response, NICD-NHLS; Centre for Respiratory Diseases and Meningitis, NICD-NHLS; KZN Department of Health; outbreak@nicd.ac.za