

## 1 ZOOBOTIC AND VECTOR-BORNE DISEASES

### a An update on rabies in South Africa, 2018

Fourteen human rabies cases (including the case reported here) have been laboratory-confirmed in South Africa to date. These cases were reported from KwaZulu-Natal (n= 8) and Eastern Cape (n=6) provinces. Two additional probable cases were reported from the Eastern Cape Province. These cases could not be confirmed through laboratory testing, but presented with a rabies compatible clinical history and history of exposure to potentially rabid dogs. This is the greatest number of human rabies cases reported in South Africa since 2010. During 2017, a total of seven cases was reported, and only two cases in 2016. The increase in the number of human rabies cases reported relates to the outbreak of dog rabies in KwaZulu-Natal and Eastern Cape provinces.

Since the previous report, rabies was confirmed in a two-year-old girl from Inanda, KwaZulu-Natal Province. The child was bitten by a neighbour's dog in the third week of August 2018, sustaining wounds on her face. The child reportedly received rabies post-exposure prophylaxis, but fell ill on 7 September. Short incubation periods for rabies have been reported in previous cases involving invasive wounds to the head, neck and shoulders. Antemortem saliva investigation for rabies yielded negative results. Negative results from antemortem saliva testing does not exclude the diagnosis of rabies. This child also reportedly received rabies vaccination and this may also explain the negative results obtained from saliva samples. The child died in the first week of October and diagnosis of rabies was confirmed by testing of postmortem-collected brain samples.

The public is urged to ensure that their dogs and cats are vaccinated against rabies. It should be appreciated that due to the outbreak of rabies in KwaZulu-Natal and Eastern Cape provinces, the risk of rabies occurring in other areas of South Africa is also increased. An example of this was the outbreak of rabies in Soweto, Gauteng Province, in 2010. Due to low vaccination coverage in dogs in the area, and following an introduction of an infected animal from KwaZulu-Natal Province, an outbreak of rabies in dogs in Soweto ensued. The outbreak required considerable efforts to bring under control and a human case of rabies was reported during the course of the outbreak. Vaccination of dogs and cats doesn't only afford protection of the animal, but also indirectly protects the humans that it may have contact with from potentially contracting the disease. When possible exposure events occur, it is imperative that medical attention is sought as a matter of urgency. Wounds require thorough washing with soap and water (and possible antibiotic treatment), and if rabies risk is present, rabies vaccination (and rabies immunoglobulin therapy) will be provided to prevent infection. Rabies is an incurable disease upon the onset of clinical symptoms, but it may be prevented through vaccination of animals and rabies post-exposure prophylaxis following possible exposure events. For more information regarding post-exposure prophylaxis for rabies, visit [www.nicd.ac.za](http://www.nicd.ac.za)

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

### b Fatal tick bite fever in Gauteng Province

The patient, a 34-year-old woman, was admitted to the intensive care unit of a private hospital in Heidelberg, eastern Gauteng Province, with internal bleeding, suspected disseminated intravascular coagulopathy, and multi-organ involvement. She had apparently been ill with fever and headache for more than a week. There was a history of tick bites. Two typical rickettsial eschars were noted, and a generalised maculopapular rash was present. The white cell count was markedly raised at  $31.83 \times 10^9/L$ , and platelets were very low at  $38 \times 10^9/L$ . Liver and renal functions were abnormal. Antibiotic treatment included intravenous ciprofloxacin. A clinical diagnosis of sepsis was made, probably due to severe tick bite fever (TBF). The clinical diagnosis was supported by the observation of the typical eschars.

Blood samples were sent to NICD for Crimean-Congo haemorrhagic fever investigations, and eschar swabs and blood for rickettsial PCR testing were processed at a private laboratory. After transfer to a provincial academic hospital, she remained

in a critical clinical condition, and died the next day. Rickettsial PCR assays on blood and eschar swabs were positive; partial sequences of the rickettsial *gltA* gene matched most closely with *Rickettsia conorii*. This rickettsial species is associated with more severe disease than the other common cause of African TBF, *R. africae*. When diagnosed late and/or sub-optimally treated, TBF can be a severe infection, clinically resembling viral haemorrhagic fever or other severe infections with multi-organ failure and bleeding. Treatment with doxycycline is recommended, and intravenous ciprofloxacin can be used if oral doxycycline administration is not possible. Unfortunately, deaths from severe TBF occur every year in South Africa. See Communicable Diseases Communiqué January 2018 Vol. 17(1); and May 2018 Vol. 17(5).

**Source:** Centre for Emerging Zoonotic and Parasitic Diseases and Division of Public Health Surveillance and Response, NICD-NHLS; Ampath Laboratories, Centurion; januszp@nicd.ac.za