

## ZOONOTIC AND VECTOR-BORNE DISEASES

### **An update on rabies in South Africa**

For 2021 to date, two human cases have been laboratory confirmed in South Africa. These cases were reported from KwaZulu-Natal and Limpopo provinces. Nearly all human rabies cases in South Africa are associated with exposures to rabid domestic dogs. As such, rabies is most effectively managed through control in domestic dog populations. This is achieved through parenteral rabies vaccination. The latter is mandated by law as the responsibility of pet owners. However, in many communities, stray and free-roaming dog populations confound rabies management efforts. Rabies infection in

humans can also be prevented through rabies post-exposure prophylaxis. When an exposure occurs, it is imperative that all wounds, however small, are washed copiously with water and soap. This is followed by administration of rabies vaccine and immunoglobulin therapy. For more information on rabies and disease prevention, please visit the NICD website: <https://www.nicd.ac.za/diseases-a-z-index/rabies/>.

### **An imported case of hantavirus haemorrhagic fever with renal syndrome**

The first laboratory-confirmed imported case of a hantavirus infection in South Africa was recorded in May 2021. The case involved a 37-year-old South African businessman, living and working in Crikvenica, Croatia. He had been ill prior to a return visit to South Africa, and was hospitalised in Johannesburg with acute febrile illness and renal dysfunction. He presented with moderate thrombocytopenia, a normal white cell count and marginally raised liver enzyme levels. Other symptoms included pulmonary oedema, cardiomegaly and blurred vision. Before developing illness, the patient visited horse stables located in a rural area in Croatia. The presence of rodents in such an area can be anticipated. Hantavirus haemorrhagic fever with renal syndrome (HFRS) was suspected given his clinical presentation and epidemiological history; another visitor to the stables was confirmed with hantavirus infection, which contributed to the suspicion of the disease in this patient. A serum sample (taken day 10 post-onset of symptoms) was submitted to the NICD for investigation. The hantavirus RT-PCR tested negative, but serological screening using an Old World hantavirus panel indicated reactivity for anti-IgG and anti-IgM. An earlier-

collected sample was sourced and a positive hantavirus RT-PCR result was obtained. Subsequent sequencing analysis indicated Puumala virus (PUUV) as the causative agent of the patient's disease.

Croatia is endemic for HFRS associated with two different hantaviruses, namely PUUV and Dobrava virus (DOBV). Humans are exposed to hantavirus through contact with aerosolised urine, droppings, saliva or nesting materials of infected rodents, which are the natural reservoir hosts. Transmission occurs through contact with mucous membranes (eyes, nose, mouth) or broken skin. Human behaviour plays a role in infection, with activities related to forestry, farming or outdoor activities considered risk factors. Hantaviruses are not readily transmissible from human-to-human, but infection prevention control measures are appropriate to avoid possible nosocomial transmission. There is no specific prophylaxis or therapy for HFRS, and symptomatic treatment is provided. Increases in HFRS diagnosis in Europe in the last decade, warrant its consideration as a differential diagnosis, especially in travellers with suggestive clinical symptoms.