1 ZOONOTIC AND VECTOR-BORNE DISEASES

a Rabies update

A total of eight laboratory-confirmed cases of human rabies was reported in South Africa during 2015. The most affected provinces were Limpopo and the Eastern Cape (EC) with three reported cases each. Single cases were also verified from KwaZulu-Natal (KZN) and the Free State provinces. In addition, there were three probable cases, of which two originated from the EC and one from KZN. A single suspected case was reported from the EC. In 2014, there were seven confirmed human rabies cases and five probable cases, and the same number reported in 2014.

The first case of rabies in 2016 was confirmed in a 16-year-old boy from Zululand District, KZN Province who developed a fatal encephalitis. He had been bitten by a domestic cat approximately eight weeks prior to becoming symptomatic. The cat was owned by his grandmother, and had reportedly started attacking people. The boy presented to his local clinic two days after being injured and was given tetanus toxoid, paracetamol and a single dose of rabies vaccine. Rabies is well documented in cats in South Africa. Given the behaviour of this cat, full rabies post-exposure prophylaxis should have been administered. In this case, molecular typing of the patient's rabies virus confirmed a canid biotype.

Rabies is invariably fatal after onset of symptoms, but disease is preventable by the administration of rabies post-exposure prophylaxis (PEP). All instances of exposure to animal bites should be evaluated to determine the risk of rabies virus transmission and the need for PEP. A rabies risk assessment is based on the presence of broken skin, and animal factors including the species of animal, the behaviour and condition of the animal and the animal's rabies vaccination status. The local prevalence of canine rabies is an important consideration when assessing risk.

Most rabies exposures will result in a category III injury (break in skin or lick of mucous membrane). Post-exposure prophylaxis must include rabies immune-globulin and a four dose course of rabies vaccine following thorough wound cleaning. An updated poster, published in 2015 summarizing the South African guidelines for rabies PEP is available on the NICD website (www.nicd.ac.za).

In South Africa, reasons for failure of PEP include: 1) lack of awareness of rabies risk and poor health-seeking behaviour following bite wounds amongst the public; 2) incorrect risk assessments by health care workers (HCW), who may not administer PEP or who prescribe PEP incorrectly (this may happen if the injury is a seemingly minor scratch, or small laceration, and the attending HCW does not consider rabies, or incorrectly judges that rabies transmission is unlikely); 3) incomplete adherence to the PEP regimen—for example if the victim is correctly initiated on PEP but fails to complete the vaccination schedule.

Human rabies case definitions*

Confirmed: Laboratory confirmed through detection of rabies viral antigen in human tissue by

- Fluorescent antibody test
- Animal inoculation
- PCR

Probable: Clinically compatible with rabies and a history of contact with a suspected rabid animal.

Suspected: Clinically compatible with rabies: – a person presenting with an acute neurological syndrome (encephalitis) dominated by forms of hyperactivity, (furious rabies) or paralytic syndrome (dumb rabies) progressing towards coma and death, usually by respiratory failure, within 7-10 days after the first symptom if no intensive care is instituted.

*Case definitions obtained from 'WHO recommended standards and strategies for surveillance, prevention and control of communicable diseases.'
http://www.who.int/rabies/epidemiology/Rabiessurveillance.pdf

Source: Centre for Emerging and Zoonotic Diseases, NICD-NHLS; (veerlem@nicd.ac.za)

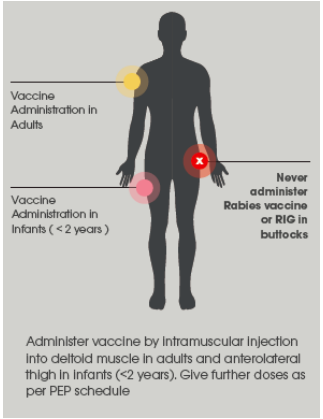

Figure 1. Sites of appropriate or inappropriate administration of rabies vaccine (An excerpt from the new poster describing PEP available on the NICD website).