

## Rabies update

The NICD-NHLS provides the only diagnostic testing facility for investigation of human rabies cases in South Africa. For 2013 to the end of May, a total of five cases of human rabies has been confirmed. These cases originated from KwaZulu-Natal (n=1), Limpopo (n=1), Mpumalanga (n=1) and Free State (n=2) provinces. A clinical case of probable rabies was reported in a two-year-old child from Polokwane, Limpopo Province.

The patient died of a meningitis-like illness on 20 April 2013, after being bitten by a dog earlier the same month and having received only one dose of rabies vaccine as post-exposure prophylaxis (PEP). During the short stay in hospital the child was observed to exhibit inappropriate behavior e.g. biting the infusion line, and he also refused to eat. During the night prior to hospitalisation the child was seen talking to himself, was weak and unable to walk, was aggressive towards his mother. Unfortunately, no specimens were submitted to confirm the suspicion of rabies in this child. During the investigation, it became clear that the father of the child had also been bitten by the same dog, and was provided with appropriate PEP.

The two cases for 2013 from Free State Province (FSP) were laboratory confirmed in April and May. A 21-year-old man was bitten on his right toe by a stray dog in Thaba Nchu on 6 March, and sought medical treatment from a local pharmacy where a nurse cleaned his wounds and provided an ointment to apply at home. The patient was not referred to a healthcare facility for rabies PEP. He died at Pelonomi Hospital on 14 April after exhibiting signs and symptoms compatible with a diagnosis of rabies for a week (including hydrophobia, confusion, agitation and fever). Rabies was confirmed by testing a post-mortem brain specimen using the direct fluorescent antibody test for rabies. This result was confirmed by RT-PCR on 18 April. Public health investigation of the case revealed additional contacts/exposures to the suspected animal, who were provided with appropriate rabies PEP.

The second rabies case from FSP was a five-year-old boy from Botshabelo, a large township settlement 45 km east of Bloemfontein – which is ±18 km from the site of exposure for the first reported case. The child was exposed to a dog in April 2013 and reportedly suffered only superficial wounds (or scratches). Apparently no medical intervention was sought due to the benign nature of the injuries. The dog was known to the

neighbourhood, but disappeared on the same day of the incident. The child was admitted to Pelonomi Hospital after a three-day history of confusion and hypersalivation, and died on 16 May. Rabies was confirmed on a post-mortem brain specimen using the direct fluorescent antibody test and the result was verified by RT-PCR on 27 May. Once again, an investigation traced additional contacts/human exposures to the dog, and rabies PEP was administered to them.

The case reported in December 2012 and these two recent cases described here are the first reported cases from Free State Province in seven years. Only four cases of human rabies have been confirmed from the province to date with two cases in 1988, and one case each in 1993 and 2005.

Though no confirmatory figures are available, the number of dog bites in South Africa is substantial. Members of the South African public are often not aware of the potentially fatal consequences of dog bites that are left untreated. Availability of PEP biologicals is another important factor in determining whether a patient receives treatment as indicated by the guidelines. The cost of full rabies PEP with vaccine and immunoglobulin is over R 1 500.00 per individual.

Limited availability of rabies immunoglobulin is always a challenge; the overuse of PEP in settings with low rabies exposure risk (e.g. Gauteng Province) that exhausts limited supplies is a growing problem. Healthcare workers are urged to conduct thorough risk assessment of animal exposures prior to administering rabies PEP, taking into account not only the nature of the injury but also the particulars of the animal concerned and the geographical location of the exposure.

**Source:** Centre for Emerging and Zoonotic Diseases, and Division of Public Health Surveillance and Response, NICD-NHLS.