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a Update on Crimean-Congo haemorrhagic fever (CCHF)

The NICD has recorded five laboratory-confirmed cases of Crimean-Congo haemorrhagic fever (CCHF) in 2014 to date, of which two were fatal. Two of the cases have been confirmed recently.

A 48-year-old farmer from a small farming settlement in Middelpos (Namakwa district), located halfway between Sutherland and Calvinia in the Northern Cape Province, presented on the 13th November 2014 with fever, rigors and arthralgia, followed by diarrhoea and vomiting one week after shearing sheep on his farm. He was initially treated with antibiotics and symptomatically. On 15 November, he was confused, fainted and was referred to a local hospital for intravenous fluids. His condition deteriorated rapidly and he was referred to a Cape Town hospital. The patient was isolated as CCHF was suspected on the basis of possible history of exposure to either ticks or infected sheep blood together with hypotension, encephalopathy and bleeding from venepuncture sites, bruising and oliguria, and profound thrombocytopenia (Platelets= $10 \times 10^9/L$) and a marked increase in transaminases (ALT=1662 IU/L; AST=4403 IU/L). CCHF was confirmed by PCR on 19th of November 2014. CCHF IgG or IgM antibodies were not detected. The patient died on 19 November.

The second recently confirmed case is a 44-year-old farmer from Van Wyksvlei in Northern Cape Province who reported a 'bontpoot' tick bite before falling ill in mid-October 2014. He presented with acute onset of fever and myalgia; initial blood results revealed thrombocytopenia, marginally raised transaminases and leukopenia. The diagnosis was confirmed by RT-PCR on two successive blood samples. The patient has recovered.

South Africa, and in particular the more arid parts of the inland plateau, is an endemic region for this haemorrhagic fever, and numerous sporadic cases are confirmed almost every year. The five cases

reported this year originated from the Free State (n=1) and Northern Cape (n=4) provinces. Their administrative boundaries include the central part of SA, and historically the majority of the cases are from the two aforementioned provinces. The first CCHF case this year occurred in January, the next two cases in September, and the fourth and fifth case in October and November respectively. CCHF in South Africa usually occurs during the summer months when tick vectors, including those transmitting CCHF (so-called 'bontpoot' ticks, *Hyalomma* spp.), are more active. Common clinical and pathological features observed in the patients included myalgia and fever, thrombocytopenia and elevated transaminases. Haemorrhagic manifestations were noted in three of the five patients with confirmed CCHF this year. All cases were associated with farming exposure, which is a known occupational risk for tick-borne disease in general due to tick infestation of livestock. Humans acquire CCHF virus infection from a tick bite, squashing of infected ticks, or from contact with infected blood or other tissues of livestock. Serologic evidence of CCHF exposure is very high in livestock herds in the interior of the country, but no morbidity and economic loss is observed in livestock as a result of CCHF infection. In contrast, people infected with CCHF usually suffer illness - but it is not known to what extent the disease (particularly cases without classical haemorrhagic manifestations) goes unnoticed. The average mortality rate for CCHF in South Africa is 30%. Serological evidence of human infection with CCHF is uncommon, despite the widespread and high prevalence of CCHF virus antibodies amongst sheep, cattle and hares throughout South Africa.

Source: Centre for Emerging and Zoonotic Diseases; and Division of Public Health Surveillance and Response, NICD-NHLS; Mediclinic Vergelegen, Somerset West; Department of Health Communicable Disease Control, Western Cape and Northern Cape Province