b Crimean-Congo haemorrhagic fever (CCHF)

Crimean-Congo haemorrhagic fever (CCHF) is a tick-borne viral zoonosis in humans which is endemic to South Africa. Human disease is sporadic and uncommon, but may have a severe clinical course with haemorrhagic manifestations. Usually, less than ten human CCHF cases are reported per year for South Africa, based on the number of cases confirmed by laboratory testing at the NICD. However, case numbers are underrepresented since systematic surveillance of human CCHF in South Africa is lacking and mild cases are certainly missed.

Symptoms and signs early in the course of CCHF disease is often difficult to distinguish from a host of other febrile illnesses. Depending on the geographic locale, the differential diagnosis may include tick-bite fever (TBF), malaria, leptospirosis, typhoid fever and meningococcemia. When a history of tick exposure is reported, the incubation period, clinical features and response to antibiotics may provide clues as to whether disease is more likely TBF or CCHF. The incubation period for tick-associated CCHF is short (1-3 days), while African TBF typically has an incubation period of 6-7 days. The treatment of choice for TBF in South Africa is doxycycline or tetracycline. Failure to respond to appropriate antibiotics within 24-48 hours suggests an alternate diagnosis, and CCHF must be considered. Resistance to doxcycline or relapses after antibiotic course completion for TBF have not been documented. Clinical signs such as an eschar with localised lymphadenopathy and rash may be more suggestive of TBF. Thrombocytopenia, elevated hepatic transmaminase levels and hyponatremia may be present in both severe TBF and CCHF, but are more common findings in CCHF. Several tests are used in combination to confirm or exclude infection with *Rickettsiae* spp. or CCHF virus. If TBF is a differential diagnosis, appropriate empiric treatment for TBF must always be given and must never be delayed pending laboratory test results.

In 2015 to date, four patients in South Africa were tested for suspected CCHF, and all tested negative. TBF was confirmed as the diagnosis in three cases, and meningococcemia was proven in the fourth case. The TBF cases were reported from Johannesburg (Gauteng Province), Jagersfontein (Free State Province) and Witbank (Mpumalanga Province). A total of six cases of CCHF were reported in South Africa for 2014. All case-patients were farmers who acquired the disease indirectly from livestock via tick exposure in farming areas within the Northern Cape and Free State provinces (one case was also potentially exposed to CCHF virus in Namibia). Ticks spread CCHF virus to domestic livestock, who are transiently and asymptomatically viraemic but play an important role in transmission to humans. The mortality rate reported for CCHF is variable, but may be up to 30%. Three of the six cases in 2014 were fatal.

Detailed information and resources on CCHF for health professionals and the general public are available on www.nicd.ac.za.

Source: Centre for Emerging and Zoonotic Diseases, NICD-NHLS