Communicable Diseases Communiqué

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Cholera outbreak

There is currently a widespread cholera outbreak in South Africa. This outbreak was first identified following the importation of cholera cases from Zimbabwe into Limpopo Province in early November 2008. The initial outbreak occurred in Musina and Madimbo, Vhembe district, and has subsequently spread to four additional districts in this province with evidence of local transmission. As of 22 January 2009, a total of 2749 cholera cases (including 10 deaths) has been reported in Limpopo Province.

The cholera outbreak has since spread to Ehlanzeni District, Mpumalanga Province. As of 22 January 2009, 1890 cholera cases (including 20 deaths) have been reported since the outbreak was first recognised on 14 January 2009. Of these, 226 cases (12%) have been laboratory-confirmed. Available epidemiological data indicates that this explosive outbreak is linked to contaminated water sources, inadequate sanitation and poor access to potable water in the affected communities.

In addition to the afore-mentioned provinces, laboratory-confirmed cholera cases have been identified in all other provinces in the country. As of 22 January 2009 this includes Gauteng (n=49), Eastern Cape (n=1), Western Cape (n=8), Free State (n=1), Northwest (n=7), Northern Cape (n=1) and KwaZulu Natal (n=2) provinces. Although many of these cases are directly linked to recent travel to Zimbabwe, several household and small community clusters have also been identified.

As reported previously (NICD Communique Vol.7 (12) 2008), the current outbreak strain of *Vibrio cholerae* O1 has been further characterized by the Enteric Diseases Reference Unit, NICD as *Vibrio cholerae* O1 serotype Ogawa biotype El Tor. Isolates received to date have been resistant to co-trimoxazole, nalidixic acid and chloramphenicol. Aggressive rehydration therapy in the severely dehydrated patient with intravenous Ringer's lactate according to standard protocols for cholera remains the mainstay of treatment and is the most important life-saving measure. Antibiotic treatment should be used only in those patients who have signs of severe dehydration. Antibiotics have NOT been shown to affect final clinical outcome, but may shorten the length of time the patient has diarrhoea and decrease volume of stool, thus decreasing the volume of fluids required for rehydration.

Control measures have been implemented in all affected provinces. Provision of access to potable water and sanitation are the key elements in cholera control and urgent interventions are needed to prevent further outbreaks. All provinces remain at high risk for the spread of cholera in the community. Surveillance should be strengthened and all health care facilities should be trained in clinical management of cholera cases to prevent further deaths.

Laboratory confirmation is no longer required for cases in the recognised outbreak areas. Individuals in these areas who present with acute watery diarrhoea should be notified as cholera cases and managed appropriately.

In areas where an outbreak has not been established, cases of acute watery diarrhoea should be notified as "suspected cholera" and investigated, including sending stool samples/rectal swabs for MC&S and cholera testing. Where antibiotic treatment is indicated, guidelines for this outbreak should be followed (Table 1).

Source: Outbreak Response Unit, Enteric Diseases Reference Unit, NICD; SA-FELTP; Limpopo local and provincial Departments of Health; NHLS; Mpumalanga SD: Communicable Disease Control; Communicable Disease Control Directorates in all provinces, National Department of Health Communicable Disease Control

Table 1. Antibiotic treatment for severe cholera cases in current outbreak

Patient group	Drug of choice
Non-pregnant adults	Doxycycline - 300mg as a single dose OR Tetracycline – 500mg QID for 3 days
Children **Age ≥ 8 years**	Tetracycline for 3 days
Children **Age < 8 years**	Ciprofloxacin for 3 days (note clinical response may be poor due to nalidixic acid resistance).

Rabies

Rabies was confirmed in an 8-year-old child from KwaZulu Natal Province on 13 January 2009. The patient was bitten by a stray dog 2 months prior to onset of illness. Apparently the patient did not receive rabies post-exposure prophylaxis.

The patient was admitted to Mbongwalane Hospital with encephalitis, hypersalivation and twitching. A saliva specimen for this patient tested positive by rabies RT-PCR. This is the first confirmed case of human rabies for South Africa for 2009. During 2008 a total of 16 human cases was confirmed in South Africa with cases from the Limpopo Province (n=3); KwaZulu Natal (n=5); the Eastern Cape (n=7) and Mpumalanga Provinces(n=1).

Source: Special Pathogens, NICD

Crimean-Congo haemorrhagic fever (CCHF)

Crimean-Congo haemorrhagic fever (CCHF) was confirmed in two patients in December 2008. The first was a farmer in Prieska, Northern Cape Province, who presented with a febrile illness, had a mild disease course and CCHF was confirmed by the presence of IgG and IgM antibodies.

The second was a farmer from Heilbron in the Free State Province who presented with fever and headache following a tick exposure. RT-PCR was positive for CCHF. He was isolated, treated with oral ribavirin and recovered without any complications.

A total of 11 laboratory-confirmed cases of CCHF was identified in South Africa in 2008.

Source Special Pathogens Unit and Outbreak Response Unit, NICD

Suspected Viral haemorrhagic fever (VHF) cases

A 34-year-old man presented with fever, headache, myalgia and herpes labialis approximately 7 days after a tick bite while camping near the Vaal River, Vereeniging, Gauteng Province. He also gave a history of having being exposed to rodents while cleaning a storeroom near Bapsfontein, Gauteng Province). There was no evidence of bleeding, an eschar was not found and he did not have a rash. He developed jaundice, ARDS, renal failure and rhabdomyolysis. Laboratory results indicated a WCC of 4.4 x 10^9/L with profound lymphopenia, moderate thrombocytopenia (platelets 84X 10^9/L) and mild transaminitis (AST and ALT 150 IU/L). He was admitted to the intensive care unit on day 6 of illness, received a quinolone antibiotic, and later died. Tests

(Continued on page 3)

(Continued from page 2)

for CCHF and the new arenavirus were negative. A rickettsial infection was confimed post-mortem by PCR. Tick bite fever is an important and not uncommon cause of multi-organ failure; the typical clinical findings of rash and an eschar may not always be apparent. Serology is often negative during acute illness. The diagnosis should always be considered in patients with a history of a tick bite or possible exposure. Doxycycline or a quinolone intravenously if indicated should be considered empirically in patients with a similar clinical picture and history of exposure, and may be life-saving .

A 19-year-old student with a febrile illness was transferred from Zambia to a Johannesburg hospital. He had been on holiday in Solwezi, on the border with the Democratic Republic of Congo (DRC). There was a history of travel in rural areas to visit a waterfall and to play golf, but no exposure to animals, and no definite history of any tick bites. He presented with fever, myalgia , nausea, vomiting and diarrhoea. He was treated for malaria; (unconfirmed) but deteriorated over several days with the development of renal failure, severe hepatic dysfunction but no jaundice (AST 5945 IU/L, ALT 2143 IU/L, LDH 11000 IU/L), bleeding with moderate thrombocytopenia (platelets 80 x 10^9/L) and a profound leucopenia (WCC 1x10^9/L). The differential diagnosis was broad and included a VHF, malaria, hepatitis A and B), leptospirosis, typhoid and herpes simplex hepatitis. In view of his clinical and laboratory picture and a history of travel to Zambia it was essential that he be managed as a possible VHF, including use of appropriate infection control precautions and urgent laboratory testing. Laboratory tests were negative for the VHFs (arenavirus, CCHF, Ebola and Marburg viruses). PCR was positive for herpes simplex variant and the herpes simplex virus IgM was positive. Fulminant hepatic failure with markedly elevated hepatic enzymes, an initial non-specific clinical illness and then multi-system disease is typical of this herpes simplex variant infection in apparently immunocompetent persons. The patient was started on acyclovir just prior to the confirmation but continued to deteriorate. He remains in critical condition.

Source Special Pathogens Unit and Epidemiology Division NICD

Beyond Our Borders: Infectious Disease Risks for Travellers

The "Beyond Our Borders" column focuses on selected and current international disease risks that may affect South Africans travelling abroad. This issue reflects selected disease events from 1 January 2009 to 21 January 2009.

Disease	Countries currently reporting outbreaks	Comments	Advice to travellers
Dengue Fever	Cambodia, Thailand, Indonesia, Taiwan, Singapore, New Caledonia, Australia Western Hemisphere: Central America, Mexico Region, Andean region, Southern Cone, Caribbean	Increased frequency of dengue fever has been reported in the beginning of 2009, compared to the same period of 2008. Heavy rainfall and flooding in Asia has resulted in large outbreaks: Taiwan reporting 1419 cases (488 confirmed) in the first six days of the year. More than 100 cases were recorded in north-eastern Australia. Outbreaks have been reported throughout Central and South America: 787 cases (266 confirmed) in the first 16 days of 2009 in Brazil, and Bolivia has declared a health emergency.	Differential diagnosis of travellers returning with fever, myalgia and rash must include dengue fever. The mosquito vectors responsible for transmission commonly breed around households and are most active during the day. Travellers should take precautionary measures to avoid being bitten by mosquitoes*.
Ebola Hemorrhagic Fever	Democratic Republic of Congo	Western regions of Kasai Occidental Province continue to be affected by an ongoing outbreak of Ebola. 43 probable cases (7 confirmed) causing 14 deaths have been recorded from November 2008 to 14 January 2009. 199 contacts remain under observation.	Ebola virus is transmitted by direct contact with the blood, secretions, organs or other body fluids of infected persons. Transmission has also been documented through the handling of infected chimpanzees, gorillas, and forest antelopes with the DRC, Cote d'Ivoire and Gabon. Travellers should avoid unnecessary visits to outbreak areas. If travel is required, avoid contact with sick individuals. Symptoms commonly include fever, weakness, muscle pain, headache and sore throat. Other symptoms including bleeding may only occur later, and are not present in all patients; however these individuals are contagious.
Yellow Fever	Brazil, Guinea	3 cases (2 confirmed) have been reported in Rio Grande Do Sur, Brazil, causing 1 death since the beginning of 2009. Yellow fever was ruled out by laboratory testing in a suspected case in neighbouring Argentina. 21 cases (2 confirmed), with 3 deaths since November 2008, have been reported in the African country of Guinea. Mass vaccination campaigns are planned.	Yellow fever is transmitted by mosquitoes*. Vaccination is mandatory for travellers to endemic countries; however, is contraindicated in pregnancy, infants <9 months, egg allergies, and certain immunosuppressions (HIV+ with CD4<200). Vaccine certificates are valid for 10 years. These individuals still require health certificates indicating reason for non-compliance.

*Vector-borne transmission by mosquitoes. Travellers should take precautionary measures to avoid bites: use insect repellents (containing 30-50% DEET), wear light-coloured clothing, and use insecticide-treated bed nets.

Source: Travel Health Unit, Outbreak Response Unit, SA-FELTP, Epidemiology Division.
References: ProMED-Mail (www.promedmail.org, last accessed 2009/01/21) and The World Health Organization (www.who.int, last accessed 2009/01/21). Centers for Disease Control and Prevention: Traveller's Health: Accessed 21 January 2009: http://www.cdc.gov/ncidod/dbmd/diseaseinfo/TyphoidFever_g.htm#Boil%20it,%20cook%20it,%20peel%20it,%20or%20forget%20it

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