

### 3 ENTERIC DISEASES

#### a An update on cholera

There is an ongoing cholera outbreak in Zimbabwe, with 10 175 cases and 55 deaths reported as of 8 November 2018. While the outbreak is still concentrated in the densely populated suburbs of Harare (Glen View and Budiro), cases have also been reported from eight other provinces. However, the number of new cases reported per week continues to decline.

South Africa has reported three cases of cholera imported from Zimbabwe since the outbreak began in September 2018. The first two cases were identified in October, and the isolates confirmed to be toxin-producing *V. cholerae* O1 serotype Ogawa at the National Institute for Communicable Diseases (NICD). Both isolates were resistant to most first-line antibiotics (including tetracycline, cotrimoxazole, doxycycline, ceftriaxone and ciprofloxacin) but susceptible to azithromycin (October Communiqué Vol.17 (9)).

A third case was recently reported from Limpopo Province. A 38-year-old male migrant worker from Zimbabwe, working and living in Alldays (Limpopo Province), had travelled to Zimbabwe on 15 October 2018 and returned to South Africa on 4 November 2018. His symptoms began on 8 November and was admitted to a hospital in Limpopo Province the following day.

*V. cholerae* was isolated from the patient's stool specimen. Further testing at the NICD confirmed the isolate to be toxin-producing *V. cholerae* O1 serotype Inaba. This was unexpected, as the previous imported cases were both *V. cholerae* O1 serotype Ogawa. Additionally, the antimicrobial susceptibility pattern for the isolate from the third case differs from the first two, so this appears to be a different cholera strain. All three isolates are susceptible to azithromycin, so this remains the recommended therapy at present.

The most likely explanation for the isolation of

these different cholera strains is that there are multiple cholera strains co-circulating in the current outbreak in Zimbabwe (as has been noted in some of their previous outbreaks). Less likely, the third case may not be linked to the outbreak in Zimbabwe, and the patient could have been infected elsewhere. Whole genome sequencing of the cholera isolates and further epidemiological investigation is ongoing.

Mild-to-moderate cholera cases may be treated with oral rehydration fluid. Severe cases require admission and intravenous fluid administration. Antibiotic treatment is recommended for patients with moderate to severe dehydration, as it reduces disease severity and the risk of further transmission. Azithromycin is recommended for cases linked to the current Zimbabwean outbreak. In South Africa, heightened awareness for possible cholera cases must be maintained whilst the outbreak continues in Zimbabwe. Any patient who develops acute watery diarrhoea with or without vomiting should be investigated for suspected cholera.

All suspected cases should be notified immediately to the relevant stakeholders and be investigated. Healthcare workers should ensure that stools or rectal swab specimens are collected, and specimens should be sent to the testing laboratory with a specific request for cholera testing. If a delay in testing or transport of specimens is anticipated, specimens should be submitted in Cary-Blair transport media (Figure 2). Additional information on cholera, including guidance on specimen collection and case management, can be accessed on the NICD website: <http://www.nicd.ac.za>

**Source:** Centre for Enteric Diseases, and Provincial Epidemiology Team, NICD-NHLS; Limpopo Provincial Health Department; (junot@nicd.ac.za)

#### Placing stool in Cary-Blair transport medium – THIS SHOULD BE DONE IF SPECIMEN CANNOT BE PROCESSED WITHIN 2 HOURS

1. A small amount of stool can be collected by inserting a sterile, cotton tipped swab into the stool in the green topped container and rotating it.
2. If mucous and shreds of intestinal epithelium are present, these should be sampled with the swab.
3. Immediately insert the swab into the transport medium. (The transport medium should have been chilled for 1 to 2 hours, if possible.)
4. The swab should be pushed completely to the bottom of the tube of transport medium
5. The top portion of the stick touching the fingers should be broken off and discarded.
6. Replace the screw cap and tighten firmly. Place labels on the bottle of transport medium AND the initial container in which the stool was collected and send BOTH to the lab. Place the Cary-Blair and the container in a refrigerator or cold box until collected. **CHOLERA CULTURE SHOULD BE SPECIFICALLY REQUESTED ON THE SPECIMEN REQUEST FORMS.**

#### Method of collection FOR RECTAL SWAB:

- Moisten the swab in sterile transport medium (Cary-Blair)
- Insert swab gently into the rectal sphincter 2-3cm. and rotate to sample anal crypts. Remove swab and check for **visible faeces**.
- Immediately insert the swab into the transport medium (SEE PICTURES) and deliver to laboratory promptly. If delays are anticipated, the swab in transport medium can be refrigerated. DO NOT FREEZE.

**Figure 2.** Guidelines for specimen collection for a suspected cholera case