

BEYOND OUR BORDERS

The 'Beyond our Borders' column focuses on selected and current international diseases that may affect South Africans travelling abroad. Numbers correspond to Figure 7 on page 8.

Vibriosis – USA

The Washington State Department of health has reported an outbreak of vibriosis in the United States of America with 52 cases reported for the month of July. This is an unusually high number of cases when compared to the five cases reported in July 2020.

Vibriosis is a disease caused by Gram-negative bacteria, naturally found in warm, salty marine environments, associated with eating raw or uncooked shellfish. There are more than 20 *Vibrio* species that can cause human illness. The primary clinical manifestation of infection of vibriosis is gastroenteritis; however patients can also experience wound infections and septicaemia,

seen particularly in immunocompromised patients. Once ingested, *Vibrio* bacteria can cause watery diarrhoea, abdominal cramps, nausea, vomiting, fever, and chills. These symptoms may occur from 4 to 24 hours post-infection and can last for up to three days.

Treatment for vibriosis is often not necessary in mild cases and supportive symptom management is adequate. Patients should keep well hydrated during the illness by drinking plenty of fluids. There is no evidence that antibiotics have an effect on the severity or duration of illness, and they are therefore not recommended.

Leptospirosis – Guyana

There have been five cases of leptospirosis reported in East Berbice-Corentyne, Guyana, following major flooding in the country. Guyana is a country with a population of almost 750 000, on the northern Atlantic coast of South America.

Leptospirosis is a zoonotic infection caused by pathogenic long, thin, motile spirochetes of the genus *Leptospira*. Leptospirosis is considered the most common zoonosis in the world and is mainly found in warm climates and settings associated with poor sanitation and agricultural occupations involving contact with animals or water. Once in water or soil, these bacteria can survive for weeks to months. Outbreaks of leptospirosis frequently follow heavy rainfall, flooding with fresh water, and increasing rodent numbers. Human infection occurs when there is direct contact of abraded skin or mucous membranes with the urine of infected animals or with contaminated water or soil.

The diagnosis of leptospirosis is usually made by serology. The incubation period for leptospirosis is 2 days to 4 weeks and illness usually begins with fever, headache, generalised muscle aches and gastroenteritis symptoms. The illness may occur in two phases. The first phase is characterised by the symptoms mentioned above, after which the patient may recover for a short period of time. If a second phase occurs, it is characterised by a more severe course of illness where patients may develop kidney or liver failure as well as meningitis. The infection may last from a few days up to three weeks or more.

Leptospirosis is treated with antibiotics which should be taken early in the course of the illness. In patients with severe disease, intravenous antibiotics may be indicated.

BEYOND OUR BORDERS

Botulism – Ukraine

A case of botulism food poisoning was reported in Melitopol, Zaporizhzhia Oblast of south-eastern Ukraine. A 65-year-old male became symptomatic after he bought and consumed a cold-smoked mackerel in a retail chain, and was later diagnosed with botulism at the central regional hospital in Melitopol.

Botulism is a rare but serious illness caused by a neurotoxin that interferes with motor nerve function, resulting in difficulty breathing, muscle paralysis, and even death. The neurotoxin is produced by *Clostridium botulinum*, a Gram-positive, rod-shaped, anaerobic, spore-forming, motile bacterium found in soil, dust and river or sea sediments. Foodborne botulism occurs following the consumption of food contaminated with preformed botulinum toxin, the incubation of which is generally 18 to 36 hours. Wound botulism and infant botulism are other forms of the disease.

Clinical features of botulism include weakness of the facial muscles that may then spread to the neck, arms, torso, and lower limbs. If untreated, the disease may progress and symptoms may worsen causing full paralysis of some muscles, including respiratory muscles, which can lead to death.

Botulism requires in-hospital treatment with a neutralising antitoxin. Treatment will not reverse any paralysis that has already occurred but may arrest its progression. Patients with respiratory muscle paralysis may require mechanical ventilation for support. In most people, paralysis that occurred before treatment will gradually improve over the following weeks or months.



Source: Promed (www.promedmail.org), World Health Organization (www.who.int), Centres for Disease Control and Prevention (www.cdc.gov), World Organisation for Animal Health (www.oie.int), National Institute for Communicable Diseases (www.nicd.ac.za); Outbreak News Today (www.outbreaknewstoday.com)