



Cholera

by Dr. Yogandree Ramsamy

Introduction

Cholera is an acute diarrhoeal infection caused by ingestion of food or water contaminated with the bacterium *Vibrio cholerae*¹.

Outbreaks of Cholera generally occur in areas of the developing world, associated with poor water, sanitation and hygiene.

Aetiology

Toxigenic strains of *V. cholerae* causes acute fulminant gastroenteritis. *V. cholerae* is a highly motile, comma-shaped gram-negative bacteria with a single polar flagellum.

There are many serogroups of *V. cholerae* that include pathogenic and non-pathogenic strains.

Until recently, the disease was caused by only 2 of these serotypes, Inaba and Ogawa, and 2 biotypes, classical and El Tor, of toxigenic serogroup O1 however in 1992, serogroup O139, or Bengal, emerged as another epidemic variant of *V. cholerae*².

Who is at risk of getting cholera?

Those who do not have access to piped safe water and improved sanitation are at risk of getting cholera especially in vulnerable communities affected by natural disasters, war, and famines³.

Symptoms of Cholera

Cholera causes severe acute watery diarrhoea.

Incubation period varies between 12 hours and 5 days for an individual to show symptoms following ingestion of contaminated food or water⁴.

Cholera affects both children and adults. Most people infected with *V. cholerae* have mild symptoms or do not develop any symptoms at all, however bacteria are present in their faeces for 1 - 10 days after infection and are shed back into the environment, potentially infecting other people.

The majority who are symptomatic have mild or moderate symptoms, while a minority develop acute watery diarrhoea with severe dehydration which can be fatal if left untreated.

Symptoms include³:

1. Sudden onset diarrhoea which is profuse, painless and watery, with flecks of mucus in the stool ("rice water" stools).
2. Vomiting may occur, usually early in the illness.
3. Children may develop a fever.
4. Rapid dehydration.



Source: Hans R. Gelderblom/RKI



Diagnosis

Cholera cases are detected based on clinical suspicion in patients who present with severe acute watery diarrhoea.

The identification of *V. cholerae* in stool samples from affected patients confirms the diagnosis of Cholera. Samples are submitted to a laboratory for confirmation by stool culture or PCR¹.

How is cholera treated?

Rehydration is the cornerstone of treatment and is lifesaving. Mild cases can be managed outside the hospital setting with oral rehydration therapy (ORT).

Moderate and severely ill patients require hospitalization for intravenous fluid rehydration. Antibiotics are recommended for patients with moderate or severe dehydration.

The antibiotic of choice currently recommended is Ciprofloxacin.

Paediatric dose: 20 mg/kg (max 1g) po stat.
Adult dose: 1g po stat. Zinc supplementation for children <5 years old is also recommended.

The prescription of anti-motility drugs (e.g. loperamide) is not recommended.

Isolate patient and apply contact as well as hand hygiene precautions³.

How can you avoid getting cholera?

Refer to attached NICD infographic on the reconstitution of safe drinking water and hygiene precautions⁵.

Cholera Prevention

1. Drink and use safe water.
2. Wash hands regularly with soap and safe water.
3. To render water safe add 5mls (1 teaspoon) of household bleach to 20 - 25 litres of water. Boiling the water is also effective however there is a potential for microbial re-growth if boiled water is stored beyond 1 - 2 days.

References

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CHOLERA

PROTECT YOURSELF AND YOUR LOVED ONES



1 What is cholera?

Cholera is an infectious disease that causes severe watery diarrhoea, which can lead to dehydration and even death if untreated. It is caused by eating food or drinking water contaminated with a bacterium called *Vibrio cholerae*.

2 What are the signs and symptoms of cholera?

Symptoms are often mild and can begin as soon as a few hours or as long as five days after infection. They typically include:

- Large volumes of explosive watery diarrhea, sometimes called "rice water stools" because it can look like water that has been used to wash rice
- Vomiting
- Leg cramps
- Dehydration occurs rapidly and if untreated can be fatal

3 Who is at risk of getting cholera?

People at risk of contracting cholera are those exposed to unsafe drinking water, contaminated rivers (bathing/ swimming) poor sanitation and inadequate hygiene.

4 How does a person get cholera?

You can get cholera by drinking water or eating food contaminated with human faeces. Soiled hands can also contaminate clean drinking water and food.

5 What should you do if you or someone you know gets sick?

If you think you or a member of your family might have cholera, seek medical attention immediately.

6 How is cholera treated?

Cholera can be treated by immediate replacement of the fluid and salts lost through diarrhea. Patients can be treated with Oral Rehydration Solution (ORS).

7 How can you avoid getting cholera?

Use safe water

In areas where water supplies may be contaminated, the most cost-effective method is chlorination of water in a storage container using household bleach:

- Add one teaspoon (5 ml, or one capful if bottle has a screw cap) of household bleach to 20- 25 litres of water.
- Thoroughly mix solution with the water and allow to stand for at least two hours (preferably overnight) before use.
- Water should be stored covered in clean containers.

Boiling is also effective, however, there is a potential for microbial re-growth if the boiled water is stored beyond 1 - 2 days. Filtration may be necessary in addition to boiling if the only water available contains much particulate matter:

- Use a piece of clean white cloth to cover the opening of a 20-25 litre water container.
- Pour water through the clean cloth into the container.
- Clean the cloth and make sure it is always clean for future use

Hygiene: Wash your hands often with soap and clean water, especially before you eat or prepare food and after using the bathroom. If no water and soap are available, use an alcohol-based hand sanitizer with at least 70% alcohol.

Food safety: Make sure you use only safe water for drinking and preparing food.

Cholera Prevention



Drink and use
safe water



Wash hands regularly
with soap and safe
water

Cholera Symptoms



Watery
diarrhoea



Vomiting



Leg
cramps