

GUIDELINES MANAGEMENT OF CHOLERA IN CHILDREN

Suspected Cholera: Physicians should suspect cholera in epidemic situations when a child with acute watery diarrhea presents with severe dehydration OR *Vibrio cholerae* is isolated from any patient with diarrhea

Transmission:
Fecal oral route - acquired by ingestion of contaminated water or food.

Incubation period: incubation period: 24-48 hours but can vary from 5 hours to 5 days.

Infectivity period: The contagious period for cholera begins as soon as organisms are excreted in the feces. This can occur as early as about 6 to 12 hours after exposure to the bacteria and can last for about 7-14 days.

Outbreak Threshold: Occurrence of at least 1 confirmed case of cholera with evidence of local transmission in an area where there is not usually cholera.

Signs, Symptoms of Cholera

- ✓ Characteristic rice-water stool, (white-tinged and contains small flecks of mucus)
- ✓ Vomiting is a common feature of cholera
- ✓ Fever is typically absent

Complications: Dehydration, hypokalemia, metabolic acidosis, hypoglycemia

Clinical Assessment of Hydration status

Severe dehydration	Some dehydration	No dehydration
Two of the following signs <ul style="list-style-type: none"> ○ Lethargic or unconscious ○ Sunken eyes ○ Not able to drink or drink poorly ○ Skin pinch goes back very slowly 	Two of the following signs <ul style="list-style-type: none"> ○ Restless or irritable ○ Sunken eyes ○ Drinks eagerly or thirsty ○ Skin pinch goes back slowly 	Not enough signs to classify some or severe dehydration

Diagnosis, Specimen Collection and Transportation

- ✓ Culture is not recommended in every case where cholera is clinically confirmed, if there are laboratory confirmed cases of cholera in locality.
- ✓ Place specimen in clean container and transport to laboratory in two hours of collection at room temperature. Incubation will be done on TCBS medium
- ✓ If 72 hours delay, place stools-soaked swab in Cary-Blair Medium.
- ✓ After proper labeling (date of collection, place of collection, name of the patient and other reference number as required), the specimens should be sent to the laboratory as early as possible.
- ✓ Rectal swab, although inferior to well collected stool samples can be considered for laboratory testing.

Isolation of the Hospitalized Patient

- ✓ Standard precautions
- ✓ Contact precautions are indicated for diapered or incontinent children for the duration of illness.

Key Points for Public Education about cholera

To Prevent cholera

- ✓ Drink only water from a safe source or water that has been disinfected (boiled or chlorinated)
- ✓ Cook Food or reheat it thoroughly and eat it while it is still hot.
- ✓ Avoid uncooked food unless it can be peeled or shelled
- ✓ Wash your proper hands after any contact with excreta and before preparing or eating food.
- ✓ Dispose off human excreta promptly and safely

Remember

- ✓ With proper treatment, cholera is not fatal.
- ✓ Take patients with suspected cholera immediately to a health worker for treatment
- ✓ Give increased quantities of fluids (If available, oral rehydration salts solution), as soon as diarrhea starts

Public Health Reporting

Suspected or Confirmed cases of cholera must be reported to concern EDO/DHO/Provincial DG Health/National Institute of Islamabad.

Principles of Management

- ✓ Appropriate rehydration therapy (Rehydration treatment Table)
 - Oral replacement with oral rehydration salt solution (ORS) is preferred
 - Intravenous rehydration therapy in severe cases
- ✓ Zinc supplementation
- ✓ Continue feeding including breast feeding

Shock Management

Rehydration with rapid intravenous fluids (20ml/kg) in case of shock

Hydration status	Treatment				
No Dehydration	Standard oral rehydration solution (ORS), at home. Give Extra Fluid- Up to 2 years: 50-100 ml of oral rehydration solution (ORS) after each loose stool Children 2 years or more: 100-200 ml of oral rehydration solution (ORS), after each loose stool				
Some Dehydration	Give recommended amount of ORS in 4-hours' time period (Approximate amount of ORS is 75ml/kg)				
	Age	Up to 4 months	4 months up to 12 months	12 months up to 2 years	2 years up to 5 years
	Weight	<6kg	6-<10kg	10-<12 kg	12-19 kg
	ORS (ml)	200-400	400-600	600-800	800-1200
	Re-access after 4 hours It is recommended that the patient be sitting up during treatment.				

Severe Dehydration Intravenous Rehydrate with Lactated Ringer's solution is the first option. if it is not available, isotonic saline solution (NaCl 0.9%) can be used

Age	First Give 30ml/kg in	Then Give 70 ml/kg in
Infants under 12 months	1 hour	5 hours
Children 12 months up to 5 years	30 minutes	2.5 hours

Closely monitor radial pulse or capillary refill time to assess the dehydration. If the pulse is weak or the capillary perfusion is greater than 2 seconds, repeat once or increase the speed of perfusion. If IV access is not available, consider rehydration through Naso-gastric tube.

Oral rehydration: Start standard oral rehydration as soon as the patient is able to drink.

Malnutrition: Patients with severe acute malnutrition should receive oral rehydration with low-osmolarity ORS instead of the standard rehydration solution for diarrhea, ReSoMal, which does not have sufficient sodium content to replace the losses from cholera.

Prompt initiation of antimicrobial therapy

Antimicrobial therapy is useful for (a) prompt eradication of the vibrio, (b) diminish the duration of diarrhea, and (c) decrease the fluid loss. Antibiotics should be administered to moderate or severe cases

Antibiotic**	Pediatric dose
Ciprofloxacin	Single dose of 20mg/kg OR 15 mg/kg/day twice daily for 3 days
Azithromycin	Single dose of 20mg/kg
Erythromycin	12.5 mg/kg 4 times a day for 3 days
Doxycycline	Single dose 4.4 mg/kg

**Follow local sensitivity pattern as and when available

Zinc Supplementation

Along with increased fluid and continued feeding, all children with diarrhea (whatever infectious etiology) should be given zinc supplementation for 10 days.

Age	Dose
Up to 6 months	10 mg
6 months to 5 years	20 mg

References

- 1- <https://www.who.int/news-room/fact-sheets/detail/cholera>
- 3- Red Book, Pediatric Infectious Disease 2021

- 2-<https://www.cdc.gov/cholera/treatment/index.html>
- 4-Advisory for prevention of cholera, NIH, Islamabad 2022