

Infectious Disease Like Cholera

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INTRODUCTION

Acute diarrheal disease caused by *Vibrio cholerae*. Cases range from symptom less to severe infection typical cases are characterized by sudden onset of effort less watery diarrhea followed by vomiting, rapid dehydration, muscular cramps and suppression of urine.

HOST FACTOR

- Age and Sex – affects all age and both sexes.
- In endemic areas an attack top rate is highest in children gastric acidity.
- *Vibrio* destroyed in an acidity of pH 5 or lower.

Population mobility

Marriage, fair and festival result is increased risk of exposer.

Economic status

The incidence of cholera tends to be the highest in lower social economic groups due to poor hygiene.

Immunity

Vaccination gives only temporary partial immunity for 3- 6 month.

Environmental factor

- Transmission is readily possible in a community with poor sanitation.
- Contaminated water and food.
- Standard of personal hygiene.
- Lack of education.
- Poor quality of life.

Mode of transmission

- Occurs from man to man faecally, contaminated water, uncontrolled water source such as well, lakes, rivers and ponds.
- Contaminated food and drinks.
- Ingestion of contaminated food and drinks.

- Water bottle feeding would be significant risk factor for infants.
- Food may be contaminated through contaminated hands and flies.
- Direct contact – May results from secondary transmission person to person transmitted to contaminated fingers while airlessly handily excreted and vomit of the patient and contaminated linen.

Incubation period for few hours to 5 day. But commonly 1-5 day.

Clinical features– 3 stages

- Stage of Evacuation
- Stage of collapse
- Stage of Recovery

Stage of Evacuation: profuse, painless, watery diarrhea followed by vomiting. The patient may pass 40 stools in a day. The stool may have white rice water appearance.

Stage of collapse: due to dehydration. classical signs are sunken eyes, hollow cheeks, scaphoid abdomen, pulse absent, unrecordable BP, loose of skin elasticity quick respiration, urine output decrease, patient becomes restless, complain of increased thirst, cramps in leg and abdomen, death may occurs at this stage due to dehydration subnormal temperature, washer man hand and food.

Stage of Recovery: If death does not occur the patient begin to show sign of clinical. Improvement of BP begins to rise, temprature returns to normal, urine secretion is re-established.

Complication

- Peripheral circulatory failure.
- Dryness of conjunctiva
- Pneumonia
- Cholecystitis
- Prostitis
- Hyperpyrexia – (Another term for a very high fever, body temp more than 106.7°F or 41.5°C).

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Control of Cholera

Verification of the diagnosis: Identity the *Vibrio cholerae* in the stool of patient. Bacteriological examination is sufficient not necessary to culture stools.

Notification: Cholera is a notifiable disease locally, nationally and internationally. Health workers at the all level should be trained to identify and modify cases immediately to the local health authority. Under national health regulation cholera is notifiable to WHO within 24 hours of its occurrence. The number of cases and deaths are also being reported daily.

Early case finding: An aggressive search for cases (Mild, Moderate and Severe) should be made in the community to be able to initiate from treatment. Early detection of cases also permits the detection of infected house hold contact and helps the epidemiologist in investigating the means of spread.

Established of treatment centers: No time should be last in providing treatment for the patient. The mildly dehydrated patient should be

Treated at home with oral dehydration therapy severely dehydrated patient requires intravenous tube. Should be transfer to the nearer hospital or treatment center. If there is no hospital or treatment center with in a convenient distance a local school or public building should be taken over and converted into a temporary treatment center. In areas where peripheral health service are poor and cholera is an endemic and threatening.

Re-hydration therapy: Disease effectively treated with re-hydration therapy. The re-hydration may be oral or intravenously.

Adjunct to therapy: Antibiotics should be given as soon as vomiting stop. Which is usually after 3-4 hrs? Oral re-hydration. No other medication should be given to treat cholera like - anti-diarrhea, anti-emetics, anti-spasmodic; cardio-toxic and corticosteroids. if diarrhea persists after 48 hours of treatment. Resistance to antibiotic should be suspected.

ANTIBIOTIC USE IN TREATMENT OF CHOLERA

- Doxycycline 300 mg QID - choice for treatment in adults excepting pregnant women.

- Tetracycline 500 mg QID 3 days - in children 12.5 mg/kg of body wt.
- Trimethoprim 10 mg (TMP)+Sulfamethoxazole 50 mg (SMX) - drugs of choice for children kg/day in two divided doses 5 days. In adult TMP 160 mg+SMX 800 mg BD 5 days. Or Nalidixic acid - in adult 1 gm TDS 5 day. And in children 55 mg/kg/body wt QID 5 days. Choice for pregnant women Furazolidone 100 mg QID 3 days, in children 125 mg/kg.

Epidemiological investigation

Generally sensation measure must be applied at the onset outbreak Epidemiological studies must be under taken to define the extent of the outbreak and identify the modes of transmission for more effective and specific control.

Sanitation measures

- Provide properly treated or save water to the community for all purposes likedrinking, washing and cooking.
- Provision of simple, cheapand effective excretal disposal system sanitary take seen is the basis nee.
- sales of food under hygienic condition. Health education must stress the importance of eating cooked hot food and proper individual food handling techniques.
- the most effective disinfectant food general use is a coal tar with redial walker. If use bleaching powder it should be of a good quality.

Chemoprophylaxis: Tetracycline is the drug of choice for chemoprophylaxis. In adult 500 mg BD 3 days. and in children 4 - 13 years 125 mg BD 3 days and 3 year 50 mg BD 3 days

Health Education: Effectiveness and simplicity of oral re-hydration therapy. Benefits of early reporting treatment, food hygiene practices, hand washing after defecation and before eating. Benefits of cooked hot food and safe water.

Vaccination: Cholera vaccine is given immunity develops for 7 month.