



A Medical Guide to Bioterrorism

How You Can Protect Yourself
Using Conventional and
Natural Medicine

By Dr. Suzanne C. Lawton



Cholera

Cholera is an acute intestinal infection caused by the *Vibrio cholera* bacteria. Most infected persons have no symptoms or only mild diarrhea. However, persons with severe disease can die within a few hours after onset due to loss of fluid and salts through profuse diarrhea and, to a lesser extent, through vomiting.

Humans acquire the disease by consuming water or food contaminated with the organism. The organism multiplies in the small intestine and secretes a toxin that causes diarrhea. When employed as a BW agent, cholera will most likely be used to contaminate water supplies. It is unlikely to be used in aerosol form. Without treatment, death may result from severe dehydration which leads to hypovolemia (a decrease in the volume of circulating blood) and shock. Vomiting is often present early in the illness making it difficult to drink and hold down fluids to replace what is being lost. There is little or no fever.

Treatment of cholera depends primarily on replacement of lost fluids and electrolytes. This is best accomplished using oral rehydration therapy with this solution recommended by the World Health Organization:

WHO dehydration formula

1 tsp. grams sodium (salt)
¾ tsp. grams baking soda
½ tsp. grams potassium chloride
(available from drug stores – many will
fill without a prescription)
2 tablespoons grams glucose
Mixed in one quart of water.

Intravenous fluid replacement is occasionally needed when vomiting is severe, when the volume of stool output exceeds 7 liters/day, or when severe dehydration with shock has developed. Antibiotics will shorten the duration of diarrhea and thereby reduce fluid losses.

If there is a known exposure, the water supply will be chlorinated to additional protection. In addition, individual households can chlorinate and boil the water for 10 minutes prior to drinking, cooking, or washing dishes. (1/2 teaspoon of chlorine bleach per 5 gallons of water is a standard dosage. Be sure to use a bleach containing the standard concentration of 5.25%. Do not use color-safe bleaches which contain no chlorine.)

The average carbon water filter will not affect the *V. cholera* organism. Water filters should only be considered a viable deterrent if your water filter is specifically designed to protect against microorganisms.

The best protection is to avoid consuming food or water that may be contaminated. Remember that cutting surfaces and kitchen appliances used to prepare food could also become contaminated by contaminated food or water. In a non-BW situation, the water would be contaminated by feces or vomit from infected persons. The organism is killed by heat.

Symptoms

Vomiting, diarrhea → dehydration → shock

Conventional treatment

Vaccinations

Improved oral cholera vaccines are presently being tested. Vaccination with the currently available killed suspension of *V. cholera* provides about 50% protection that lasts for no more than 6 months. The initial dose is two injections given at least 1 week apart with booster doses every 6 months.

Cholera Vaccine Information

At the present time, the manufacture and sale of the only licensed cholera vaccine in the United States (Wyeth-Ayerst) has been discontinued. It has not been recommended for travelers because of the brief and incomplete immunity it offers. No cholera vaccination requirements exist for entry or exit in any country.

According to the Centers for Disease Control, two recently developed vaccines for cholera are licensed and available in other countries (Dukoral[®], Biotec AB and Mutacol[®], Berna). Both vaccines appear to provide a somewhat better immunity and fewer side-effects than the previously available vaccine. However, neither of these two vaccines is recommended for travelers nor are they available in the United States. Further information on these vaccines can be obtained from the manufacturers at:

Dukoral[®]
Active Biotech AB (publ)
Postal Address: P.O. Box 724, SE-220 07 Lund, Sweden
Office address: Scheelevagen 22
Tel: +46 46 19 20 00,
Fax +46 46 19 20 50
E-Mail: info@activebiotech.com
Home page: <http://www.activebiotech.com>

Mutacol[®]
Berna, Switzerland Division
P.O. Box
CH-3001 Berne
Domicile:
Rehhagstrasse 79e
CH-3018 Berne
Tel. +41 31 981 22 11
Fax +41 31 981 20 66

E-mail: berna@berna.org
Home page: <http://www.berna.org/>

Fluid replacement both orally and by IVs.

Antibiotics can more rapidly eliminate the organism. Tetracycline, Erythromycin, and Chloramphenicol are the most effective.

Natural Medicine

Homeopathy has a strong historical and current (India) reputation in the successful treatment of cholera.

Herbs have also been proven successful in treating both symptoms and decreasing the mortality rates. Herbs are used to control vomiting and allow fluid replacement and to control diarrhea.

Herbs Used To Treat Cholera

Formula for Cholera

This is an well-documented formula used to treat cholera. It's made by combining herbal tinctures in equal parts:

<i>Xanthylum</i> (Prickly Ash)	3/4 fluid oz.
<i>Zingiber</i> (ginger)	3/4 fluid oz.
<i>Myrica cerifera</i> (bayberry)	3/4 fluid oz.
<i>Berberis aquifolia</i> (Oregon Grape) or	
<i>Coptis chinensis</i> (Goldthread)	3/4 fluid oz.
<i>Geranium maculatum</i> (Geranium)	3/4 fluid oz.
<i>Capsicum</i> (cayenne)	3/4 fluid oz.

Place in a 4 oz. dropper bottle. Dosage is 2 tsp. to 1 tbsp. in water every 4 hours in the full-blown disease.

Other herbs used to treat cholera

Camphor – Historically, homeopathy won world wide renown in the paucity of fatalities during the cholera epidemics. The standard dosage was a few drops of Camphor tincture taken in a teaspoon of sugar without water as a preventive measure against developing cholera. Although this was used by homeopaths, it is essentially an herbal treatment.

Other supportive measures:

Acidophilus in a non-refrigerated form at the onset of diarrhea. (1-2 capsule before or 2 hours after eating. – adult dosage)

Vitamin C: Though Vitamin C has immune enhancing properties, it is best to avoid using it in high amounts for this disease (over 2000 mg/day) because it loosens the bowels.

Homeopathic Remedies Used To Treat Cholera

(dosage is in *How to Use Homeopathic Medicine*)

Veratrum album – Give every 10 minutes for collapse with slow, deep, gasping inspiration, with the patient appearing dead in the intervals.

Carbo vegetabilis – States of collapse in cholera in which the patient may be almost lifeless, but the head is hot, breath cool, and must have air (fan or windows open).

Camphora – Well known for use in collapse from cholera in which the person is extremely cold but refuses to be covered. It will be difficult to get a pulse on this person

Antimonium tartaricum – Edema and impending paralysis of the lungs. Rapid pulse.

Cuprum – Used in the later stages of the disease to treat excessive cramping or vomiting.

Please check our web site at <http://www.NaturopathyOnline.com> for more information.

Excerpted from:

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