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Traveling Texans Still Face Cholera Risk

Background

The cholera epidemic continues throughout Central and South America; since 1991, over 1 million cases have been reported. During that time, 11,337 individuals in this region have died of cholera. The countries with the highest cumulative incidence rates for the 5-year period include Peru (2,738 cases per 100,000); Ecuador (776 cases per 100,000); Guatemala (707 cases per 100,000); Nicaragua (595 cases per 100,000); El Salvador (525 cases per 100,000); and Bolivia (507 cases per 100,000). In 1995, 85,873 cases were reported with 847 deaths. (Figure 1 gives the distribution by country.) Although total reports of cholera cases declined in 1995, 4 countries reported more cholera cases in 1995 than in 1994 (Figure 2). These were Columbia with 1,922 cases and 35 deaths; Ecuador with 2,160 cases and 23 deaths; Mexico with 16,430 cases and 137 deaths; and Nicaragua with 8,825 cases and 164 deaths.[1] Two Texas cases were reported in 1995; both individuals had a history of travel in Mexico.

Case 1. In late March, a 33-year-old Hispanic male from San Antonio developed profuse diarrhea while traveling in Guadalajara, Mexico. During the week before he became ill, while he was in Mexico, he had eaten raw oysters. On his return to the United States for treatment, a stool sample, submitted to the Texas Department of Health (TDH) Laboratory, was positive for *Vibrio cholerae* O1, serotype Ogawa, biotype El Tor. He was treated with doxycycline and recovered.

Case 2. A 41-year-old Hispanic male developed profuse, watery diarrhea on his way back from a 3-week visit to Guanajuato, Mexico. He developed diarrhea at around 1:00 AM on April 20; 4 to 5 hours later he began vomiting. At 11:30 AM, he was admitted to a hospital in Johnson County for severe dehydration and hypotension. On admission, his clinical examination and laboratory tests disclosed the following values: blood pressure, 79/46 mm Hg; pulse rate, 100/min; respiratory rate, 24/min; and temperature, 99.4ºF. White blood cell (WBC) count was 13,200/cu mm, with 71% polymorphonuclear cells, 7% band forms, and 19% lymphocytes. Although the blood-urea-nitrogen (BUN) level was within normal limits, the creatinine level was elevated at 2.5 mg/dL. The potassium level

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Cholera Prevention for Travelers

The principal sources of cholera are fecally contaminated water and mishandled or contaminated food, including raw or undercooked shellfish. Although a cholera vaccine is available, it is not recommended because it is only about 50% effective and protection lasts only 3 to 6 months. To prevent cholera as well as many forms of travelers' diarrhea, the Texas Department of Health recommends avoiding raw or undercooked seafood; food and beverages purchased from street vendors; raw, already-peeled fruits and vegetables; and beverages with ice. Travelers should use boiled or iodine-treated water to brush their teeth, and drink only boiled or iodine-treated water, hot tea, coffee, bottled carbonated beverages, or alcoholic beverages without ice. Food that is steaming hot in the center is invariably safe. Individuals who develop severe diarrhea while traveling, or in the week following travel, should seek medical attention immediately and advise the physician of their recent travel.

was 3.4 mmol/L and was markedly acidotic, with a CO_2 of 9 mmol/L. No white blood cells (WBCs) were visualized on a smear for fecal leukocytes; however, gram negative curved rods were observed. A stool sample submitted to the TDH Laboratory was positive for *V. cholerae* O1, serotype Ogawa, biotype El Tor. (Because the incubation period for *V. cholerae* O1 is usually <5 days, the patient was infected in Mexico.)

The patient was given intravenous fluids and dopamine for his hypotension and doxycycline for the infection. Although his diarrhea decreased significantly by the second hospital day, he remained acidotic, and his creatinine level continued to rise, peaking at 8.9 mg/dL. He developed acute tubular necrosis and renal failure. After one week of supportive care, his creatinine level began to improve, and he was discharged on April 27.

Cholera cases must be reported immediately by calling (800) 705-8868.

Identification, Confirmation and Reporting

Physicians should consider the diagnosis of cholera in all patients with severe diarrhea who have a recent travel history to countries where cholera is occurring. Cholera cases must be reported immediately by calling (800) 705-8868.

Oral rehydration should be started as soon as patients are able to drink.

Submit all *V. cholerae* isolates to the Texas Department of Health (TDH) Laboratory for serotyping. Collect stool specimens before the patient has received any antimicrobial agent. Place fecal material or rectal swabs in Cary-Blair semisolid transport medium and ship at ambient temperature in a triple container. If Cary-Blair medium is not available, ship 2 tablespoons of the raw specimen on wet ice or cold packs in a sterile, leak-proof container. The TDH Laboratory must receive raw stool specimens within 24 hours of collection. Complete a Specimen Submission Form (G-1) for each isolate or stool specimen; indicate the name of the submitting agency or physician and the return address. Ship specimens to: Texas Department of Health Laboratory, 1100 West 49th Street, Austin, TX 78756-3194.

Treatment

Severe cholera may cause fluid losses in excess of 10% of the patient's body weight. Cholera deaths can be prevented by immediate, aggressive administration of fluids to correct dehydration, shock, and acidosis. If severe dehydration occurs, rapid intravenous rehydration therapy with lactated ringers (LR) solution is indicated to restore circulation. In adults, several liters may be required immediately. Oral rehydration should be started as soon as patients are able to drink. Prompt oral rehydration is critical in infants because prolonged maintenance with LR may lead to hypoglycemia.

Appropriate antibiotic treatment with doxycycline, tetracycline, trimethoprim-sulfamethoxazole, or erythromycin will lessen the duration of illness. Antidiarrheal medications, antispasmodics, and corticosteroids are not recommended for patients with cholera.

For further information contact the TDH Infectious Disease Epidemiology and Surveillance (IDEAS) Division at (512) 458-7676.

Prepared by Mardi VanEgdom, IDEAS

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References

1. Pan American Health Organization (PAHO). Cholera situation in the Americas update number 14. Washington, DC: April 19, 1996.

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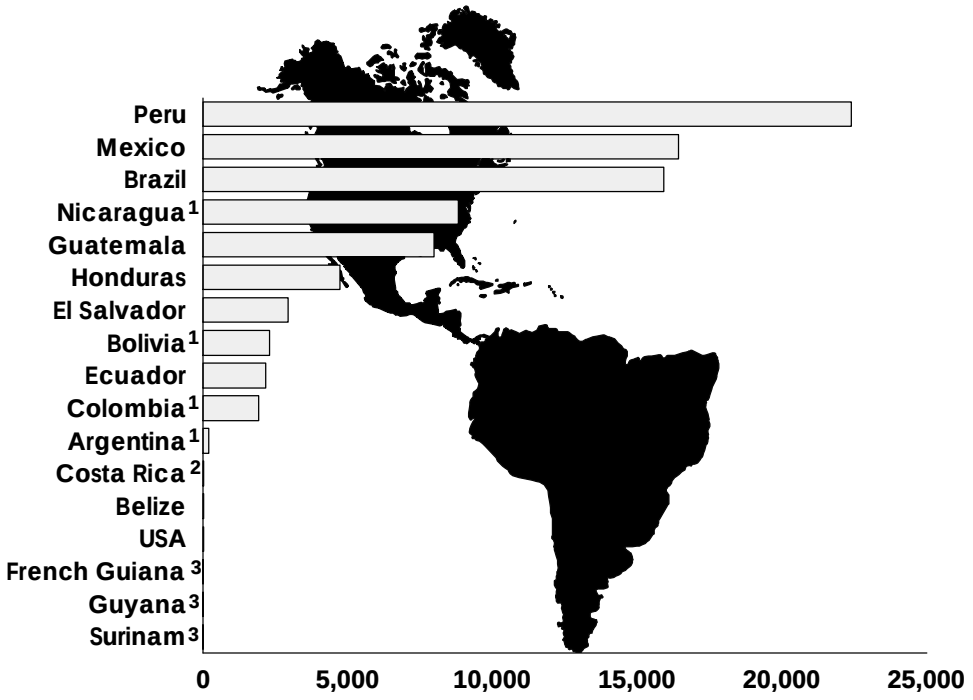
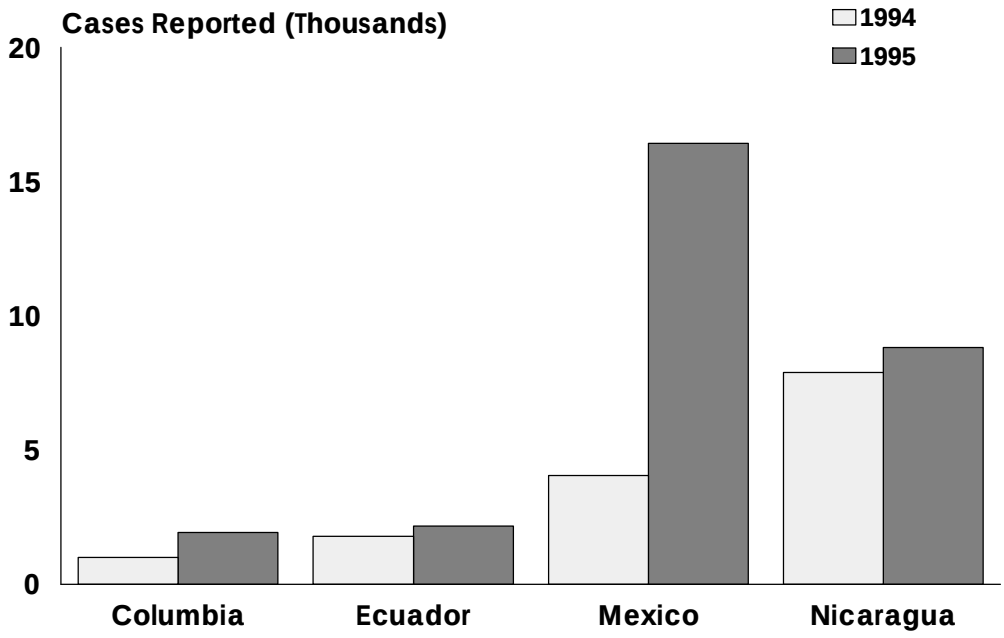
Figure 1. Cholera Cases; Western Hemisphere, 1995



1 Through November, 1995
2 Through October, 1995
3 Data incomplete, but number of cases appear negligible.

Figure 2. Countries with Increasing Cholera Morbidity from 1994 to 1995



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