Oral cholera vaccine for traveler's diarrhea prophylaxis

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Clinical question
Should the oral cholera vaccine be routinely recommended to prevent traveler's diarrhea (TD)?

Bottom line
Randomized controlled trials evaluating oral cholera vaccine for TD did not show a benefit and routine use is not recommended.

Evidence
- In a systematic review of 24 RCTs of vaccines to prevent TD, many studies tested vaccines in cholera-endemic areas (not in travelers) and examined immunologic (not clinical) outcomes.
- An RCT of 502 US college students given oral cholera vaccine or placebo on arrival in Mexico, with a second dose 10 days later, found no difference in all-cause diarrhea (vaccine 51%, placebo 49%) or enterotoxigenic Escherichia coli (ETEC) diarrhea (vaccine 14%, placebo 15%).
- Diarrhea was reduced 7 or more days after the second dose, but this was not confirmed by external reanalysis.
- Adverse events were not reported.
- An RCT of 187 travelers comparing ETEC vaccine, oral cholera vaccine, and placebo (given at least 7 days before leaving) found no significant difference between groups in all-cause diarrhea (placebo 21%, ETEC vaccine 24%, oral cholera vaccine 27%).

Context
- Diarrhea, usually from ETEC, affects up to 50% of travelers to developing countries.
- Risk of cholera is about 1 in 10,000 to 1 in 1 million per month abroad.
- A cholera toxin subunit in the vaccine triggers cross-immunity to ETEC, leading to its indication for prevention of TD.
- Most cases of TD resolved spontaneously in 3 to 4 days, but taking antibiotics at onset improved rates of 72-hour cure (84% versus 50%, number needed to treat = 3).
- North American guidelines do not recommend the oral cholera vaccine for most travelers.
- The vaccine costs about $90 and it is not covered by any provincial health care plans.

Implementation
As most cases of TD are acquired through consumption of contaminated food and water, common-sense recommendations for prevention include self-pooling of fruits and vegetables; consuming fully cooked, hot food; and avoiding tap water, ice, salads, fruit juices, and cold sauces. Travelers to high-risk areas (Middle East, South and Southeast Asia, South America, Central America, and the low-income countries of Africa) can be provided with antibiotics (eg, azithromycin) to self-administer if they develop diarrhea. Bismuth subsalicylate or antimitotic agents (eg, loperamide) can also be used provided there is no blood in the stool or fever present. Vaccinations for other infectious diseases with high prevalence or potential morbidity (eg, hepatitis A) should be encouraged.

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References