Treatment and prevention of traveler's diarrhea

Clinical scenario

A patient you know well comes to see you in preparation for a trip. She is a generally healthy 36-year-old woman, married with 2 school-aged children. "Hi there!" she says with a friendly smile. "We are all off to the Caribbean for the winter holidays and this time we hope not to get sick and ruin our vacation." You recall that last time they all got traveler's diarrhea (TD). "This time we want the whole works—vaccines, antibiotics, probiotics—everything! What do you think?"

Context

Traveler's diarrhea is common and acquired mainly through the ingestion of contaminated food and beverages. The most common causes of TD are bacteria (including enterotoxigenic *Escherichia coli* [ETEC], enteroaggregative *E coli*, and *Campylobacter*, *Salmonella*, and *Shigella* species), parasites (typically *Giardia*, *Cryptosporidium*, and *Cyclospora* species), and viruses (especially norovirus).

Evidence

The vaccine for prevention of TD is of limited value, as it only protects against ETEC. In fact, Canada's Committee to Advise on Tropical Medicine and Travel (CATMAT) does not recommend its routine use for prevention of TD, as moderate-quality data showed the vaccine was not effective.[1] In a summary of effectiveness studies for the ETEC vaccine, CATMAT noted, "Overall, 35% of vaccinated subjects and 37% of non-vaccinated subjects developed diarrhea."[1]

However, CATMAT does note that for certain high-risk, short-term travelers older than 2 years of age, the potential benefits of the ETEC vaccine for TD prevention might outweigh any risks. The vaccine could be considered indicated for travelers with chronic illnesses at increased risk of serious consequences (such as those with chronic renal failure), those with gastric hypochlorhydria and consequently an increased susceptibility to TD, those who have immunosuppression, those who have a history of repeated severe TD, or those who cannot tolerate a brief illness (eg, elite athletes or business or political travelers).[1] But there is no guarantee. And getting the vaccine can give people a false sense of security, which might lead them to make riskier food choices.

Although there is high-quality evidence for the use of fluoroquinolones as prophylaxis, serious adverse events have been noted and there is always the risk of increasing antimicrobial resistance to some pathogens, so this limits their usefulness.[1] In addition, travelers have indicated a preference against taking antibiotics for prevention of TD. As for probiotics, the jury is still out. Definitive studies are pending.[1] Based on your knowledge of this patient and her family, you explain why you do not recommend the ETEC vaccine, antibiotics, or probiotics to prevent TD during their holidays.

Bottom line

After sharing this information you then provide your advice: "There is some good news. According to CATMAT, there is high-quality evidence to support the use of bismuth subsalicylate as a prevention strategy for diarrhea,[1] but you need to take it 4 times a day. Good old hand hygiene is also effective. Put alcohol-based hand sanitizer in everyone's pocket or beach bag, to be used before eating meals or snacks. Avoid undercooked or raw meats and seafood, and shy away from fresh fruits and salad unless they are from a trusted source. Avoid food from open markets, where food might be prepared, stored, or served in unsanitary conditions. Dry foods, such as breads, meals that have been cooked well and recently, bottled drinks, and boiled water are generally safe.[2]

"And if you do get diarrhea, loperamide and oral rehydration solution are effective treatments.[1] Rehydration solution in powder form must be mixed with clean water. Remember that alcohol and caffeine can worsen dehydration and sugary drinks can worsen diarrhea. So consider bringing bismuth subsalicylate and lots of alcohol-based hand sanitizer for prevention and loperamide and oral rehydration solution for early treatment and you should be all set!"

Cet article se trouve aussi en français à la **page 977.**

References

1. Libman M; Committee to Advise on Tropical Medicine and Travel (CATMAT). Summary of the Committee to Advise on Tropical Medicine and Travel (CATMAT) Statement on Travellers' Diarrhea. *Can Commun Dis Rep* 2015;41(11):272-85.
2. Public Health Agency of Canada [website]. *Eat and drink safely.* Ottawa, ON: Government of Canada; 2015. Available from: **http://travel.gc.ca/travelling/health-safety/food-water**. Accessed 2015 Oct 13.

CANADA COMMUNICABLE DISEASE REPORT
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CCDR Highlights summarize the latest evidence on infectious diseases from recent articles in the *Canada Communicable Disease Report*, a peer-reviewed online journal published by the Public Health Agency of Canada. This highlight was prepared by **Dr Patricia Huston**, a family physician, public health physician, and Editor-in-Chief of the *Canada Communicable Disease Report*.