CORRESPONDENCE

Anti-diarrheal medication use in the treatment of Ebola virus-induced diarrhea

KEYWORDS
Ebola; Anti-diarrheals; Supportive care; Viral gastroenteritis

Dear Editor,

We would like to comment on the use of anti-diarrheal medication in the treatment of Ebola virus-induced diarrhea. Early symptoms of Ebola virus disease (EVD) are non-specific and may include fever, chills, myalgias, malaise, and anorexia. Approximately five days after symptom onset, 62 percent of patients develop gastrointestinal (GI) illness including abdominal pain, nausea, vomiting, and watery diarrhea [1]. The often voluminous diarrhea may lead to significant hypovolemia, ultimately resulting in shock and/or death. Supportive, symptom-based treatment is recommended; the use of anti-diarrheal medications to reduce GI output may be considered. Patient outcomes attributed to EVD-induced diarrhea treatment choice are not known. In general, non-antibiotic anti-diarrheal medications are not recommended for diarrhea associated with fever or for mucous-containing diarrhea marked by inflammation, ulceration, or bleeding of the GI tract [2]. However, this general recommendation is based largely upon expert opinion or extrapolation from small series limited to a few causes of infectious diarrhea. A key question for an assessment of the role of anti-diarrheal therapy in EVD is: In the pathophysiology of EVD, does diarrhea play a protective role through elimination of the infectious agent?

Equating the treatment of EVD-induced diarrhea to that of diarrhea associated with severe bacterial GI infections or self-limiting community-acquired viral gastrointestinal infections is problematic. EVD-induced diarrhea has been described in recent reports as watery and voluminous (5 or more liters per day) [3]. Profuse and watery diarrhea is known to occur as a result of small bowel hypersecretion that can be caused by bacterial toxins or enteroadherent pathogens. The hypothesis that Ebola virus is an enteroadherent pathogen is strengthened by recent autopsy reports confirming the presence of viral antigens within mononuclear cells in the lamina propria of gastric, small intestinal and colonic mucosa [4]. However, a better understanding of the pathophysiology of EVD-induced diarrhea is clearly needed to guide supportive therapy and to determine the risk of infection spreading via this route to health care workers [5]. In the interim, decision-making on this important question may be aided by a review of practices in the current outbreak.

The supportive care regimens used during prior Ebola hemorrhagic fever outbreaks do not comment on antidiarrheal medication use despite the majority of patients having diarrhea. In a review of filovirus outbreaks, analgesics, antipyretics, and antiemetics were typically available, whereas antidiarrheals were occasionally available [6]. For the current West African outbreak there are no published standard treatment approaches to EVD-induced diarrhea. Thus, some providers are hesitant to use anti-diarrheal medications while others use these medications to limit severe dehydration and shock in hypovolemic patients [3]. No mention of antidiarrheal treatment was made in treatment reports of the initial EVD patients treated in Germany and Atlanta, GA. At least one medical center in the United States has used diphenoxylate and atropine to treat EVD-induced diarrhea (American Society of Health-System Pharmacists (ASHP) Connect Ebola Community, 10/31/14). Concern regarding the lack of supporting evidence was appreciated; however, in the absence of demonstrated viral elimination via the stool, it was administered with careful monitoring.

Based on the paucity of available literature and growing field experience, the treatment of EVD-induced diarrhea may be considered after full assessment of the risks and benefits of therapy. Close patient monitoring is essential, with early discontinuation of therapy if abdominal distention or other adverse events arise. Studies to examine the mechanisms of diarrhea in EVD and the impact of anti-diarrheal medication are needed.

Conflict of interest statement

All authors declare that there are no conflicts of interest.

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References


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21 January 2015

Please cite this article in press as: Kendall RE, et al., Anti-diarrheal medication use in the treatment of Ebola virus-induced diarrhea, Travel Medicine and Infectious Disease (2015), http://dx.doi.org/10.1016/j.tmaid.2015.01.003