CLINICAL VIGNETTE

Dysentery in a Traveler Returning from Western Europe

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Introduction

Infectious diarrheal illness is a common problem for travelers, affecting up to 50% of people visiting developing countries. Dysentery, a more severe form of diarrheal illness associated with fever and stool mixed with mucus and blood, most commonly caused by Campylobacter, Shigella, and Salmonella. While quite common in travelers to the developing world, dysentery is much less common in travelers to developed nations, and may go undiagnosed in travelers to the developed countries of Europe. Primary care providers, should incorporate dysentery into pre-travel counseling and the post-travel evaluation including travelers to Europe.

Case Presentation

A 39-year-old man presented with a complaint of abdominal pain and diarrhea. Approximately two months prior to presentation he had vacationed in Northern Italy for several weeks and engaged in activities such as swimming in Lake Garda and dining at local restaurants. About a week after returning he developed dull aching pain in his lower abdomen that improved with defecation. His symptoms progressed over the two months leading up to presentation. The pain worsened and no longer improved with defecation, and he began to have frequent voluminous bowel movements up to six times a day. The stool was slimy and mixed with mucus but not frankly bloody. He developed febrile sensation, body aches, and malaise. On examination the patient was afebrile and hemodynamically stable. Labs including CBC, BMP, LFTs, lipase, were normal. CRP was mildly elevated to 1.2. An extensive gastrointestinal stool work-up was ordered including enteric parasite and bacterial pathogen panels, examination for ova and parasites, and evaluation for Yersinia, Vibrio, and Aeromonas. He was advised to avoid anti-diarrheal medications as the concern for infection was high. The enteric bacterial pathogen panel returned positive for Shigella species. Antimicrobial therapy was offered, however, the patient declined antibiotics in favor of supportive care with hydration given that his febrile sensation, body aches, and malaise had resolved, though he did continue to have significant diarrhea. On follow up one week later, the organism had been identified as Shigella sonnei (sensitive to azithromycin and ciprofloxacin but resistant to Bactrim). The patient continued to do well and noted resolution of his abdominal pain and significant improvement in his bowel movements. Approximately 3 months after the initial onset of symptoms, the patient finally reported complete resolution to baseline despite never taking antimicrobial therapy.

Discussion

Travelling to destinations in developed settings, including Europe, does not preclude traveler's diarrhea (TD) or dysentery. Though the majority of travel related diarrhea will be due to self-limited enterotoxigenic E. coli or other self-limited etiologies, dysentery does occur and can lead to prolonged symptomatic illness as seen in this patient. The most common causes of dysentery are Campylobacter, Shigella, and Salmonella. Of Shigella species, S. sonnei as seen in this patient, is the most common worldwide and in developed settings.[1,2] Antimicrobial resistance patterns can make this differentiation important, though clinically difficult to distinguish between different causes. The recent availability of genetic testing with PCR panels of stool samples allows for the rapid detection of these common causes with greater than 90% sensitivity. Some platforms can be resulted within 1 hour of processing.[3]

While traveler's diarrhea is common and often self-limited to a short duration of illness, this case is informative in highlighting prolonged diarrheal illness and raised public health concerns regarding continued carriage and shedding of pathogenic bacteria. While even prolonged illness can ultimately resolve with supportive care alone as seen in this case, treatment can decrease carriage of viable organisms to as little as three days, providing significant public health benefit.[4]

Increasing rates of antimicrobial resistance make it difficult to determine reliably effective empiric therapy. A systematic review of sixteen trials involving 1748 patients found that a universal empiric therapy could not be recommended, but needs to be based on local resistance patterns.[4] The traditional use of Bactrim as first line therapy has largely been replaced with fluoroquinolones due to worldwide Bactrim resistance.[5] The uncontrolled use of antibiotics in South and Southeast Asia has led to prevalent fluoroquinolone resistance such that azithromycin is now the preferred empiric therapy for travelers from those regions. In 2017 reports of fluoroquinolone and multidrug resistant Shigella in Europe, have prompted the use of ceftriaxone as empiric therapy for severe cases.[6]

Prevention would be ideal, and pre-travel counselling has been demonstrated to have efficacy, with one study showing a 6% incidence of TD in patients receiving pre-travel counseling, compared to 27% in the control.[7] While most of these cases are mild and self-limited, some can be prolonged. Thus the goal of treatment therefore aims to decrease the duration of illness and offer benefit to public health by decreasing the duration of

carriage and bacterial shedding. This is of particular importance in immunocompromised patients in whom shedding is known to be prolonged.[8]

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