Short Communication

*Cyclospora* Infection in an Immunocompetent Patient in Japan

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SUMMARY: *Cyclospora cayetanensis* is a coccidian protozoa that was newly recognized in 1979 in Papua New Guinea. We report the case of a 42-year-old French man who had visited Vietnam and presented with fever and watery diarrhea that had lasted for more than 2 weeks. The patient was diagnosed with *C. cayetanensis* infection by examination of a stool smear using UV fluorescence microscopy. Based on this rare case, we recommend that *Cyclospora* infection might be considered in the differential diagnosis of traveler’s diarrhea in immunocompetent patients.

A previously healthy 42-year-old French man living in Japan presented with fever (37.2–39.4°C) and watery diarrhea with a frequency of up to 10 times a day for more than 2 weeks. He had visited Vietnam with his family for 16 days from May 5 to May 20 in 2007, and the onset of diarrhea was May 16, while the patient was still in Vietnam. There was no history of abdominal pain nor nausea. Three other members of his family had no symptoms. The patient was initially treated with levofloxacin at 300 mg/day orally for 5 days, but the fever and diarrhea persisted. The patient’s leukocyte count was 10,800/µl and his serum C-reactive protein level was 3.6 mg/dl (normal range <0.3). No pathogenic bacteria were cultured in the stool. The stool was concentrated using sedimentation and flotation techniques. We initially carried out a formalin-ethyl acetate test, and then applied a sucrose concentration technique using half of the sediment of the former method. The sugar solution included 500 g of sucrose, 650 ml of distilled water, and 1 g of sodium azide. Stool microscopy showed nonrefractile, hyaline cysts (8–10 µm in diameter) suggestive of *Cyclospora cayetanensis* oocysts (Fig. 1A). Blue neon epifluorescence was detected by subsequent UV fluorescence microscopy (Fig. 1B). Clinically, both *C. cayetanensis* and *Cryptosporidium parvum* produce oocysts in human stool and cause long-lasting diarrhea; the major differential aspects are size (*C. cayetanensis*, 8–10 µm; *C. parvum*, 4–5 µm) and the presence of autofluorescence (*C. parvum* shows no autofluorescence under UV illumination). The patient was treated with a sulfamethoxazole (800 mg)/trimethoprim (160 mg) compound twice a day for 7 days with a diagnosis of cyclosporosis, and the clinical symptoms disappeared within 5 days. The source of the *Cyclospora* infection of this patient was unclear.

*C. cayetanensis* is a newly recognized coccidian protozoa. This organism causes traveler’s diarrhea among travelers in developing countries (1). As in this case, the season of onset of diarrhea tends to be March to July in most cases. If not treated, diarrhea can last for a month or longer. Although this organism is known to cause outbreaks in developed countries as well, cases of *C. cayetanensis* infection are rarely reported in Japan (2). Outbreaks have been linked to various types of fresh produce and contaminated water (3,4). The oocysts excreted in the stool require days to weeks outside of the host in order to sporulate and thus to become infectious. *C. cayetanensis* causes a more severe and chronic illness in human immunodeficiency virus (HIV)-infected patients. The serum antibody to HIV was negative in our patient.

The current diagnosis of cyclosporosis is based on the stool microscopy, but stool specimens are not routinely examined for *C. cayetanensis* unless an infection is clinically suspected. Of note, chemotherapy is successful in cases of cyclosporosis. Physicians should therefore include cyclosporosis in the differential diagnosis of traveler’s illness, especially in patients with prolonged diarrhea.

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