Cyclospora sp. Associated with Diarrhea in a Patient with AIDS in Turkey

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The genus *Cyclospora* is in the subclass Coccidia, phylum Apicomplexa. This genus is taxonomically related to coccidian genera in humans. This organism has previously been referred to as a cyanobacterium-like body (CLB) and, in recent years, a new coccidian pathogen, *Cyclospora cayetanensis*, has been putatively identified (1, 2). No other species of *Cyclospora* affecting humans have yet been determined (3). This organism has been detected in diarrheal stools of patients with the HIV-virus and in travelers with diarrhea (1).

This organism was detected in the stools of a patient with HIV. This is the first report in Turkey of the infection with this organism.

A 50-year-old woman was admitted in December, 1996 for chronic diarrhea, vomiting, and fever. There was preceding history of episodic watery diarrhea, vomiting, and weight loss along with intermittent fever over a period of one year. She was cachectic, afebrile, with mild abdominal tenderness, and alert, with thrush and small cervical lymph nodes. She had anemia (hemoglobin 8.4 g/l). Enzyme immunoassays (EIA) for HIV antibodies were positive and the T4/T8 ratio was 0.6 in serum. *E. coli* and *Proteus* spp. were found at $10^4$ cfu/ml from urine specimens. Acid-fast bacilli were detected in sputum specimens but not isolated in cultures.

A stool specimen was negative for occult blood and contained few leukocytes. In direct wet mounts, microscopical analysis of the stool revealed numerous spherical double-walled microorganisms 8-9 µm in diameter, some with internal granulation. These round bodies were stained using Kinyoun acid-fast staining.
After Kinyoun acid-fast staining of the stool, the organisms appeared faint pink to red in colour some cysts not taking up the acid-fast stain and appearing as “ghosts”. Empty cysts varied in shape but had generally collapsed into crescents (Figure). Routine bacteriological cultures of the stool were negative. The organism was identified as *Cyclospora* sp.

*Cyclospora* is not a new organism but it is a newly recognized organism. *Cyclospora* organisms were first noted in the intestines of moles in 1870 by Eimer, and Schneider created the genus *Cyclospora* 1881. The first report of human *Cyclospora* infection came from Papua New Guinea in 1979 (4). The case described in this paper is the first report of *Cyclospora* infection in Turkey.

*Cyclospora* sp. is a significant cause of chronic and intermittent diarrhea in immunocompromised patients, including those with AIDS. Recently, a study in Haiti has documented the occurrence of chronic diarrhea in most patients with AIDS (5). *Cyclospora* infection has also been reported in patients with severe AIDS in other areas (6, 7), similar to that seen in our case.

The epidemiological and environmental data suggest that the organism is waterborne (1). In 1994, an outbreak of *Cyclospora* occurred among British soldiers and dependents stationed in a small military detachment in Pokhara, Nepal. That outbreak was epidemiologically linked to drinking water, because the organism was identified in he water source (8).

The symptoms associated with infection with this new organism have been reported to resemble those of cryptosporidial infection, including watery diarrhea, nausea, weight loss, and abdominal pain (5, 7, 9). Our patient also had similar symptoms. Because the new organism in acid-fast like the oocyst of cryptosporidium, we strongly recommend that all laboratories screening for the latter parasite make precise measurements of oocysts. Where size discriminations are often not made, it is quite possible that many cases of diarrhea reported to be due to cryptosporidium might actually due to *Cyclospora*. Because *Cyclospora* organisms have now been isolated in patients with AIDS and chronic diarrhea, this infection should be carefully distinguished from cryptosporidiosis (1-3, 5).

This organism should be considered in cases of unexplained diarrhea in patients with AIDS. Additional studies are needed to confirm the association with disease in other populations and to define the incidence and epidemiological features of this organism.

References