

Epidemiology

Cyclospora has been reported throughout the world but the prevalence of human cyclosporidiosis is not yet known. Most epidemiological surveys have been based on examination of stool specimens either from persons with diarrhea or simply from those submitted to parasitology laboratories.

Ingestion of contaminated water and food appears to be the major route of transmission. Asymptomatic (not showing outward signs of disease) Cyclosporidiosis has not been documented. Cyclosporidiosis has been described in travelers, and infections are significantly skewed towards those individuals traveling during the summer months and/or in tropical areas and immunocompromised individuals.

Clinical Diagnosis

Clinical diagnosis of Cyclosporidiosis requires identification of the oocysts in feces. Two complimentary methods are currently used, Fluorescence Assay and Acid-Fast Staining.

The Fluorescence Assay utilizes fecal smears which are exposed to the proper ultraviolet microscope light source. Upon examination the oocysts autofluoresce a intense neon-blue. Proper UV reaction and size determination represent a presumptive positive finding.

The acid-fast method requires that the oocysts take up a dye and retain it after being rinsed with a acid solution. *Cyclospora* oocysts display a widely variable acid-fast reaction.

Clinical Treatment

Infection with *Cyclospora* can be treated with a seven-day course of oral trimethoprim (TMP)-sulfamethoxazole (SMX). No non-sulfa based therapy is currently available (Morbidity and Mortality Weekly Report 45(25), 1996).

ENVIRONMENTAL

Detection

Isolation of *Cyclospora* from water sources requires concentration of a large volume of water by passage through a yarn-wound depth filter rated at 1 micron nominal porosity. Sample volume can range from 40 liters to hundreds of gallons depending upon the source water. The filter element is transported to the laboratory where it is washed and the sediment is concentrated. After a series of clean-up steps, the sample concentrate is examined by the fluorescence method described above. The acid-fast method of detection in environmental samples is impractical due to limited numbers and interfering acid-fast substances.

BioVir currently employs the fluorescence assay method of detection.

Survival

There is not enough information to accurately describe the survivability of the cyclosporan oocyst in the environment or in water treatment processes.

FURTHER INFORMATION

For more information concerning *Cyclospora* sampling and detection, please call BioVir Laboratories at 1-800-GIARDIA (442-7342).