Opportunistic intestinal parasitic infections in immunocompromised (HIV/AIDS) patients

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Abstract

Gastrointestinal parasitic infection is a major source of disease in people living with HIV/AIDS, especially in tropical countries. Diarrhoea is a common clinical manifestation of patients with HIV infection. Although gastrointestinal diseases occur in all age groups of immunocompromised patients, they occur with the greatest frequency (up to 90%) in patients with AIDS. Most of morbidity and mortality of advanced AIDS is associated with opportunistic intestinal parasites that cause debilitating infections in immocompromised individuals with low immune status as compared to the immunocompetent individuals. Protozoa are the most common cause of parasitic diarrhea particularly in developing countries. They are frequently transmitted by unhygienic habits such as direct transfer of ova or cysts from anal region to mouth, eating with unwashed hands, eating and drinking of contaminated food and drink and inappropriate disposal of night soil and human excreta. Most common enteric opportunistic parasites which have been associated with HIV/AIDS include: Cryptosporidium spp., Iso spora belli, Cyclospora spp., Microsporidium spp., Strongyloides stercoralis, Giardia lamblia, Entamoeba histolytica. Amongst the opportunistic intestinal parasitic infections, intracellular coccidial protozoan parasites, Cryptosporidium and Isospora belli infection have been labeled as AIDS-defining illness and occur mostly at CD4 counts <200 cells/?l. Opportunistic parasites are still important agents causing morbidity and mortality in immunocompromised patients, particularly those living with HIV/AIDS. Few studies in Mexico have attempted to determine the prevalence of opportunistic intestinal parasites causing diarrhea in immunocompromised patients. A study was conducted to determine the intestinal parasites in HIV-positive and HIV-negative immunocompromised patients with diarrhea admitted to a tertiary care hospital in Monterrey, Mexico, from 2014 to 2015. Stool samples were examined for trophozoites, cysts, and eggs using the EGRoPe sedimentation-concentration technique and special techniques (modified Ziehl-Neelsen stain, modified trichrome stain). A total of 56 patients were included. The overall prevalence of intestinal parasitism was 64% (36/56); 22/36 patients were HIV-positive. Prevalence of opportunistic parasites was 69% in HIV-infected patients compared to 44% in HIV-negative patients (P = 0.06). Microsporidia were the most frequently identified parasites (24/36, 67%), followed by Cryptosporidium sp. (6/36, 17%), Sarcocystis sp. (4/36, 11%), Cystoisospora belli (3/36, 8%), and Cyclospora cayetanensis (1/36, 3%). Overall prevalence rates of microsporidiosis and cryptosporidiosis were 43% and 11%, respectively. Among HIV-infected patients, prevalence rates of microsporidiosis and cryptosporidiosis were 48% and 14%, respectively. We also report the first cases of intestinal sarcocystosis in Mexico, all in HIV-infected patients. In conclusion, microsporidia and coccidia are major parasitic agents causing diarrhea in immunocompromised patients, particularly HIV-infected patients.

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