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Clinical parasitology news

Treatment of *Dientamoeba fragilis* and *Enterobius vermicularis* coinfecting patients

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Background: *Dientamoeba fragilis* is a protozoan parasite found in the gastrointestinal tract of humans initially considered it as a non-pathogenic commensal. The aim of this study was to describe the differential characteristics of *D. fragilis* infection in immigrants and non-immigrants patients attended in a Tropical Medicine Unit.

Material/methods: During the years 2012-2014 we conducted a prospective screening program of *D. fragilis* infection in all patients attending in Tropical Medicine Unit of Hospital Universitario Central de Asturias. Combined examination of three concentrated stool samples, and polymerase chain reaction (PCR) was used as screening. We considered that infection exists if the microscopic visualization of larvae in stool sample and/or the PCR was positive. Clinical information was collected on any patient who was diagnosed with *D. fragilis* infection. Eosinophilia in blood test was studied. All positive patients were treated with metronidazole for ten days. Follow-up stool samples were collected 2–4 weeks after treatment and underwent microscopy and PCR. All data was entered into a database and analyzed using SPSS 18.0 software package.

Results: *D. fragilis* was detected at 77 patients, (44% immigrants, 62% male, average age 32 [19] years). Twenty-one patients were children under 14 years old. The countries of origin were: Spain (55.8%), Equatorial Guinea (14.3%), Colombia (7.8%), Ecuador (6.5%), Pakistan (5.2%), Paraguay (4%) and others (6.3%). Most of the infected patients (60%) presented with diarrhea and abdominal pain. Twenty percent of patients had a peripheral eosinophilia. The rest were asymptomatic. Twenty eight (36.4%) patients were coinfecting by *Enterobius vermicularis*. All patients were treated with metronidazole, 88.3% of them (33 in the immigrant group and 35 in the non-immigrant group) were cured and the rest have microbiological relapses. The curation was associated with the co treatment with mebendazole ($p=0.025$, OR 0.167 [0.032-0.871] and the absence of coinfection by *E. vermicularis* ($p=0.020$, OR 0.154 [0.029-0.808]). The multivariable analysis confirm the lower rate of curation in presence of *E. vermicularis* ($p=0.032$)

Conclusions: These results confirm the pathogenic nature of *D. fragilis* and the influence of *E. vermicularis* coinfection in its curation. *D. fragilis* is a commonly encountered enteric protozoan parasite, which should be considered in any differential diagnosis of gastrointestinal disease. We recommend a routine test for *D. fragilis* based on genome detection by PCR, a systematic screening of *E. vermicularis* coinfection and the treatment of both pathogens in co-infected patients.