

BRIEF COMMUNICATION

INFECTION BY *Cryptosporidium* SP. IN IMMUNOCOMPROMISED HAEMATOLOGICAL PATIENTS

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SUMMARY

The frequency of intestinal infection by *Cryptosporidium* sp. was determined in 60 patients, attended at the Haematological and Haemotherapeutical Service of "Santa Casa de Misericórdia" of São Paulo, suffering lymphoproliferative diseases (Group 1). As control group (Group 2) 59 persons without haematological diseases, but with the same life time and living at the same place of that of haematological patients, had been examined. The stool parasitological tests performed disclosed *Cryptosporidium* sp. oocysts in six (10%) individuals belonging to Group 1, whereas, in Group 2, nobody showed infection by this coccidian. Among the patients infected by *Cryptosporidium* sp. only one showed diarrhoeal faeces.

KEYWORDS: *Cryptosporidium* sp.; Cryptosporidiosis; Lymphoproliferative disease; Immunocompromised patient.

Infection by protozoan of the genus *Cryptosporidium* have been recognized as a frequent cause of enteric disease and, sometimes, other alterations in immunocompromised patients⁵. This infection has also been observed in non-immunosuppressed individuals, without the same severity, showing a self-limited clinical course^{17,20}. *Giardia lamblia*, *Entamoeba histolytica*, *Cryptosporidium parvum* and *Blastocystis hominis* were found to be the most commonly associated parasites in hundred immunocompromised children in Egypt¹⁶; *Cryptosporidium* was, in this study, confined to immunocompromised groups with T-cell abnormalities.

Human cryptosporidiosis usually is caused either by *Cryptosporidium parvum*, a species with zoonotic behaviour, or *C. hominis*, which only infects humans; the morphological discrimination of both species is, however, quite impossible. Other species morphologically distinguishable seldom may infect human beings⁷.

In Brazil cryptosporidiosis has been found in aids patients^{3,6} and even in other kind of immunosuppressed patients². It has also been diagnosed in non-immunocompromised people, with or without diarrhoeal faeces^{4,8,9,14}.

In the present study the occurrence, from January 2000 to December 2002, of *Cryptosporidium* sp. infection in 60 haematological patients, with variable degrees of immunosuppression, attended at the Haematological and Haemotherapeutical Service of "Santa Casa de Misericórdia" of São Paulo was investigated. The research protocol

was evaluated and approved by the Ethical Research Committee of the Tropical Medicine Institute of São Paulo.

Sixty patients with either lymphoproliferative diseases showing variable levels of immunosuppression had been examined for the presence of *Cryptosporidium* sp. oocysts in the stool, by staining with carbolfuchsin¹, after concentration by the formol-ether technique¹². A control group, consisted of 59 persons with the same life time and living at the same place but not showing haematological diseases, was also examined. So, for each patient, except in one case, a control individual, usually a member of the patient family, was obtained and submitted to the same parasitological technique.

The results, showed in the table I, indicate a significative difference between the frequency of *Cryptosporidium* sp. infection in both examined groups.

Table 1

Frequency of infection by *Cryptosporidium* sp. in 60 haematological patients attended at the Haematological and Haemotherapeutical Service of "Santa Casa de Misericórdia" of São Paulo, 2000-2002

Patients	Examined	<i>Cryptosporidium</i> sp.	
		No.	%
Haematological	60	6	10
Control	59	0	-

p < 0.05

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Frequently cryptosporidiosis had been found to impair the clinical outlook of patients with either immunosuppressive diseases, as aids and neoplasms, or patients submitted to immunosuppressive situations as bone-marrow and solid organ transplantations^{10,11,13,18,19}. However, in some occasions, *Cryptosporidium* oocysts had been diagnosed in faeces of asymptomatic and oligosymptomatic patients^{2,15}. It is noteworthy that among the patients shedding *Cryptosporidium* sp. oocysts in the present study only one was suffering from diarrhea, suggesting lack of intestinal alterations due to *Cryptosporidium* infection in almost all those patients. GENTILE *et al*¹⁰, studying patients with haematologic malignancies in Italy, found a different situation: only five were asymptomatic among 20 patients with intestinal cryptosporidiosis.

The group of haematological patients showed a significative higher frequency of infection by *Cryptosporidium* sp. when compared to the control group. It should be stressed that both groups had been submitted to the same environmental conditions and had comparatively the same age suggesting a higher tendency of infection by *Cryptosporidium* sp. among the haematological patients.

RESUMO

Infecção por *Cryptosporidium* sp. em pacientes hematológicos submetidos a situações de imunodepressão

Determinou-se a frequência de infecção intestinal por *Cryptosporidium* sp. em 60 pacientes atendidos no Serviço de Hematologia e Hemoterapia da Santa Casa de Misericórdia de São Paulo que apresentavam processos linfoproliferativos (Grupo 1). Como grupo controle (Grupo 2) examinaram-se 59 indivíduos sadios, que habitavam as mesmas localidades e pertenciam a faixa etária semelhante a dos pacientes do Grupo 1. Os exames parasitológicos de fezes revelaram frequência de infecção por *Cryptosporidium* sp. de 10% no Grupo 1, enquanto nos controles (Grupo 2) não se evidenciou nenhum caso de infecção por esse coccídeo. Entre os pacientes que eliminavam oocistos de *Cryptosporidium* sp. apenas um apresentava fezes diarréicas.

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