

RESEARCH NOTE

Blastocystis hominis Infection in Cuban AIDS Patients

Angel Escobedo⁺, Fidel Angel Núñez

Instituto de Medicina Tropical "Pedro Kourí",
Laboratorio de Parasitismo Intestinal, Autopista Novia
del Mediodía, Km 6, entre Autopista Nacional y
Carretera Central, Apartado 601, Lisa, Ciudad
Habana, Cuba

Key words: *Blastocystis hominis* infection - AIDS

Blastocystis hominis, previously known as a yeast, is being considered a potential pathogenic protozoan by different authors (RR Babb & S Wagener 1989 *West J Med* 151: 518-519, SMH Qadri et al. 1989 *J Clin Microbiol* 27: 2407-2409). However, others believe it to be a commensal microorganism (T Sun et al. 1989 *Am J Gastroenterol* 84: 1543-1547, H Senay & D Mac Pherson 1990 *J Infect Dis* 162: 987-990).

There are many reports that show the possibility of this microorganism to cause gastrointestinal disorders in patients with immunodeficiency diseases (PL Garavelli et al. 1988 *Lancet* ii: 1364, JM Llibre et al. 1989 *Lancet* ii: 221, PL Garavelli & M Libanore 1990 *Rev Infect Dis* 12: 158). We present here the results of a coproparasitological study carried out in Cuban AIDS patients in whom the prevalence of *B. hominis* infection had never been studied.

During the period of September 1994 to January 1995, at least two fecal samples were obtained from 67 adult AIDS patients who were admitted in our hospital due to different diseases; all of them were infected with the human immunodeficiency virus (HIV) and met the Centers for Disease Control (CDC) criteria for AIDS (CDC 1987 *MMWR* 36: 1-15); the totality of stool samples were examined immediately upon arrival and were processed in the intestinal parasite laboratory at Tropical Medicine Institute "Pedro Kourí" in Havana. Direct wet mount with Lugol's stain and Ritchie's

concentration technique (LR Ash & TC Orihel 1987 *Parasites: a guide to laboratory procedures and identification*, ASCP Press, Chicago, 328 pp.) were the selected laboratory procedures. Patients were interviewed according to the same questionnaire and clinical records reviewed by a single observer. Statistical analysis was carried out using proportion test, and the differences were considered to be statistically significant when the *P* value obtained was less than 0.05.

B. hominis was identified in 17 patients (25.4%), only by direct wet mounts with Lugol's stain. It was found to infect more males (14/17) than females (3/17), in the majority of cases this protozoan was found alone (12/17) and in others it was associated to other intestinal parasites such as *Cryptosporidium* spp. (2 cases), *Giardia lamblia* (1 case), *Ascaris lumbricoides* (2 cases, 1 of them with *Enterobius vermicularis*) and *Entamoeba histolytica* (1 case). None of these cases had more than 5 *B. hominis* microorganisms per field (400X magnification). There were not found statistical significant differences in clinical findings between the group of AIDS patients with *B. hominis* and the rest of AIDS patients without this intestinal protozoa (*P*>0.05) (Table).

TABLE

Characteristics of 67 Cuban AIDS patients with and without *Blastocystis hominis* infection

Characteristics	<i>Blastocystis hominis</i>			
	Positive (n=17)		Negative (n=50)	
	No.	(%)	No.	(%)
Male	14	(82.3)	37	(74.0)
Female	3	(17.6)	13	(26.0)
Alone ^a	12	(70.5)	38	(76.0)
With other parasites	5	(29.4)	12	(24.0)
Diarrhoea	12	(70.5)	30	(60.0)
Abdominal pain	8	(47.0)	20	(40.0)
Flatulence	8	(47.0)	21	(42.0)

a: without another intestinal parasite

This protozoan is a frequently occurring microorganism in fecal samples of patients with gastrointestinal tract disorders and it has been described as a causative agent of these problems (JB Vanata et al. 1985 *Ann Intern Med* 102: 495-496, MC Henry et al. 1986 *Trans R Soc Trop Med Hyg* 80: 309-310). However, we think *B. hominis* has a commensal behaviour due to the lack of association with gastrointestinal disorders when we compared the group of AIDS patients infected with *B. hominis*, with the rest of AIDS patients in whom

⁺Corresponding author. Fax: +53-7-33.6051/21.5957
Received 29 March 1996
Accepted 5 December 1996

this microorganism was not found. Other reason for that conclusion was the finding of a reduced number of microorganisms found per field, besides, according to Sheehan's criteria, they could not be taken as cases of blastocystosis (DR Sheehan et al. 1986 *J Clin Microbiol* 24: 548-550). For those cases who developed diarrhoea we suspected the possibility of viral, bacterial, fungal, or microsporidial intestinal coinfections not detectable in our study design. It is important to realize that all these AIDS patients were kept at hospital facilities suffering of different diseases, they underwent antimicrobial therapy, consequently they

could have developed a cross protection against this protozoan. In this sense the study performed by AN Cohen et al. (1985 *Ann Intern Med* 103: 480-481) could be a good example, when they used ketoconazole as an alternative drug for *B. hominis* treatment, and it is very well known that this drug is one of the most employed in oral candidiasis treatment, a very frequent infection in AIDS patients.

As a conclusion, our results suggest that *B. hominis* is common in AIDS patients in Cuba but its role as an enteropathogen in these patients remains uncertain so far.