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CORRESPONDENCE

CRYPTOSPORIDIOSIS AMONG PATIENTS WITH THE ACQUIRED IMMUNODEFICIENCY SYNDROME IN MARACAIBO, VENEZUELA.

Cryptosporidium is a coccidian parasite found in the intestinal and respiratory epithelia of a wide variety of vertebrate hosts. The first cases of human cryptosporidiosis were reported in 1976[14,16]. Since 1982 there has been a dramatic increase of human cases, most of them with acquired immunodeficiency syndrome (AIDS). **Cryptosporidium** practically unknown before AIDS outbreak, has become one of the most common intestinal protozoa. Prevalence rates obtained from large-scale surveys of selected populations range from 0.6% - 20% for developed countries and 4% - 20% for developing countries[8,12,20]. Nowadays, this coccidio is recognized as a cause of self-limited diarrheal illness in immunocompetent persons and of severe, sometimes life-threatening and protracted diarrhoea, in immunosuppressed persons, particularly those with AIDS[1,2,9,14-16,18,22].

In patients with AIDS, prevalence rates of **Cryptosporidium** of 3% - 4% have been estimated in the United States[2]. In symptomatic patients the frequency is higher: 28% (5 of 18)[12] and 23.3% (7 of 30)[24]. In Brazil, Africa and Haiti infection rates of 12.1% - 17%[4,6], 30% - 50%[3,5,19] and 46%[5,19] respectively, have been reported. In Salamanca (Spain), a percentage of 12.5% was found in patients with antibodies against the human immunodeficiency virus (HIV)[11].

In Venezuela, there is scarce information about cryptosporidiosis. Infection rates of 10.8% and 2.5% - 4% have been reported in children with acute diarrhea in Caracas and Barquisimeto respectively[7,17]. In Maracaibo, the capital of Zulia State, reports on this parasite are lacking, exception made for a seroepidemiological study of 84 venezuelan children with an enzyme-linked immunosorbent assay. Only 22 children were from Zulia State and 3 of them were from Maracaibo. The percentage of seropositivity for both specific IgG and IgM antibodies was 15.5%[23]. These findings suggest that the infection is endemic in Zulia State.

Here we report a preliminary study designed to evaluate the prevalence and clinical significance of **Cryptosporidium** in patients with AIDS from Maracaibo.

Ten symptomatic patients referred to our laboratory from the Regional Immunology Unit of Zulia State were studied. All of them were resident in Maracaibo, aged 7 to 35 years. Seven were male and 3 females. All of the patients had mild or severe diarrhea and some had one or more of the following manifestations: abdominal pain, malaise, weight loss, cough with expectoration, lymphadenopathy, candidiasis and herpes.

Three stool specimens were collected from each patient. For the recovery and identification of **Cryptosporidium** the modified Ziehl-Neelsen carbolfuchsin stain on 10% formalin preserved stool was used[10]. For the diagnosis of other parasites direct wet mounts and smears stained with iron hematoxylin were examined[21].

Four patients (40%) had **Cryptosporidium** oocysts (Fig.1), associated with **Trichuris trichiura** and **Blastocystis hominis**, in one case. Two patients (20%) had only **Giardia lamblia** trophozoites. All the cases infected with **Cryptosporidium** revealed an inflammatory exudate plenty of leukocytes, plasma cell and macrophages. Two of them had Charcot-Leyden crystals.

A multitude of opportunistic infections has been documented in patients with AIDS. Gastrointestinal illness are among the most common and debilitating complication, affecting 50% to almost 100% of AIDS patients in developed and developing countries, respectively[13]. Cryptosporidiosis has been recognized as one of the most frequent opportunistic infection in AIDS patients. Therefore, research on the prevalence and clinical significance of this coccidio in our country is necessary.

Although the data of this study are limited, **Cryptosporidium** appears to be very common in AIDS patients from Maracaibo. The frequency obtained (40%) is higher than that observed in the United States and Brazil[2,4,6,12,24] and similar to the frequencies reported from Africa and Haiti[3,5,19].

Multiple concurrent infections are common in AIDS patients. Therefore one cannot unequivo-

cally assign an etiologic role to **Cryptosporidium** of the gastrointestinal symptoms of the infected patients, in the absence of bacterial and viral agents. However, the high frequency of the infection in the patients suggest a significant role of this coccidio in the etiology of diarrhea of AIDS patients in Venezuela.

It has been pointed out that the main symptom of cryptosporidiosis is a non-inflamatory diarrhea and leukocytes are rarely seen[8]. In this study an inflamatory exudate with abundant leukocytes was noted in all of the infected patients. This observation may be due to other associated enteropathogens and requires further investigation.

Charcot-Leyden crystals are common in Isosporiasis. We observed plenty of these crystals in two of the cases with **Cryptosporidium**.

In Venezuela, further investigations are necessary in order to evaluate the prevalence and clinical significance of this coccidio, specially in AIDS patients to be able to manage successfully these patients.

An increase in the diagnosis of **Cryptosporidium** and other enteric coccidial parasites will likely parallel the increase in AIDS, therefore physicians must be aware of these parasites as causes of chronic diarrhea in these patients.

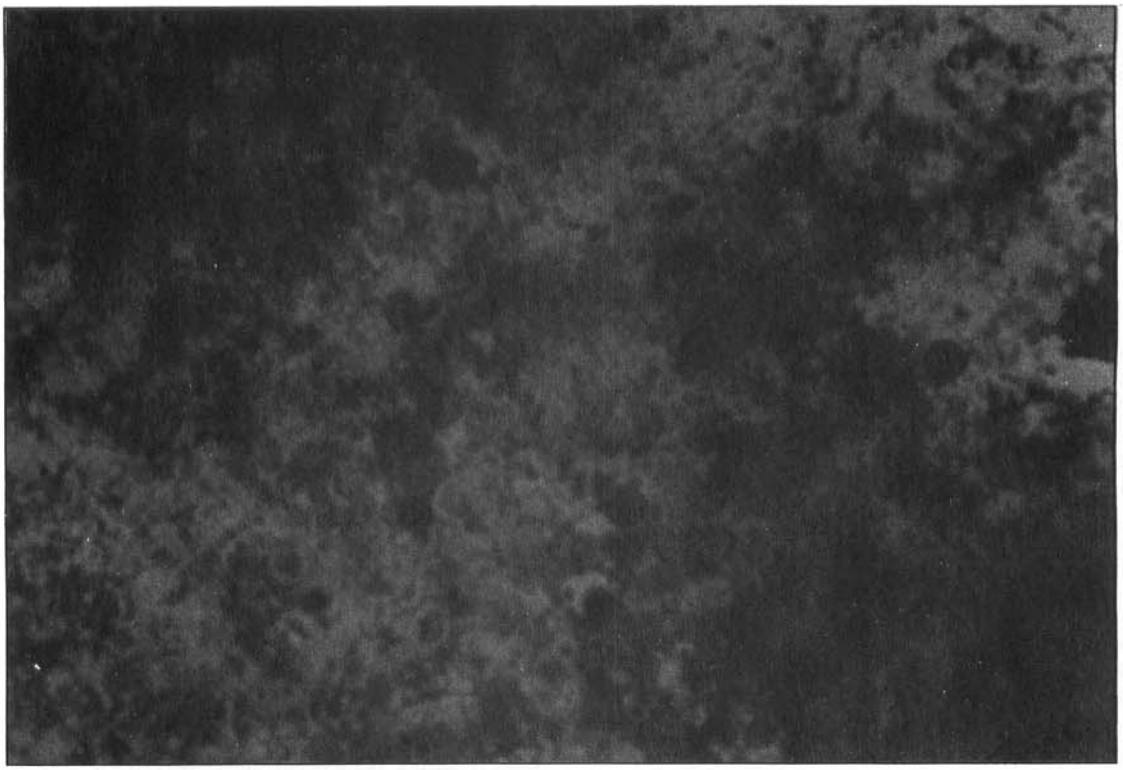

Fig. 1- **Cryptosporidium** oocysts recovered from stool material and stained by the modified Ziehl-Neelsen carbolfuchsin stain (X 1.000).

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