

CRYPTOSPORIDIOSIS IN VENEZUELAN CHILDREN WITH ACUTE DIARRHEA

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Abstract. Thirteen of 120 Venezuelan children with acute diarrhea were found to be excreting *Cryptosporidium* oocysts in their stools. This confirms that *Cryptosporidium* can infect immunocompetent children, and the relatively high frequency found suggests that this protozoan may be an important cause of diarrhea in Venezuela.

Cryptosporidium is an intestinal protozoan recently associated with animal and human disease.^{1,2} It has been found to be a cause of chronic diarrhea in persons with immunodeficiency and a relatively common cause of acute diarrhea in immunocompetent individuals.² A prospective study of immunocompetent children with diarrhea³ showed this protozoan in 4.3% of the cases, the parasite being absent in healthy children. This preliminary report describes the identification of *Cryptosporidium* oocysts in fecal smears on glass slides fixed with 100% methanol and stained with Giemsa and/or modified Ziehl-Neelsen (ZN) acid-fast stain.⁴ Stool specimens were collected from 120 Venezuelan children under 2 years of age suffering from acute diarrhea, during March–April 1983 and May–September 1984. Oocysts were identified using oil immersion microscopy ($\times 1,000$), and appeared as spherical structures of 3–5 μm in diameter. They often appeared unstained in Giemsa preparations, but were generally stained red with ZN stain. We found that the detection of *Cryptosporidium* using the ZN method was easier and more reliable than Giemsa staining. A relatively high frequency of infection was found (13/120; 10.8%) in children throughout the age range examined (Table 1). The clinical manifestation of diarrhea in which *Cryptosporidium* was detected varied from mild to severe, with dehydration occurring in 77% of the cases; only 3 children did not require hospitalization. Fever and vomiting were present in 77% of the cases, and blood (detected macroscopically) and mucus in 61.5% and 84.6%, respectively. The duration of illness

ranged from 3 to 15 days; 5 cases were hospitalized for longer than 10 days.

From our results it is, however, not possible to draw conclusions regarding the association of clinical manifestations with cryptosporidiosis infection since the presence of other etiological agents was not investigated. The presence of blood in a higher portion of patients than that previously reported may be due to the association of *Cryptosporidium* with other diarrhetic pathogens, and requires further clarification. We did not complete a full year study period, so we have no information on seasonal frequency, as has been reported elsewhere.³ However, the frequency we found is higher than in any previous report,^{1,5} although the oocyst excretion rate in relation to age was similar to that found by Mata et al.³ in children from urban areas of Costa Rica.

This report confirms, therefore, that *Cryptosporidium* can infect immunocompetent individuals. In addition, the high frequency found suggests a significant role of *Cryptosporidium* in the etiology of acute diarrhea in Venezuelan children.

ACKNOWLEDGMENTS

The authors wish to thank Gidalía Urbina for her technical assistance. This study was sup-

TABLE 1
Frequency by age of positive diagnoses for cryptosporidiosis

	Age groups (months)					Total
	1-3	4-6	7-9	10-12	>12	
No. examined	32	32	12	9	35	120
No. positive	1	4	1	3	4	13

Accepted 26 February 1985.

ported in part by Venezuelan Council for Scientific Research (CONICIT, S1-1197).

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