

CASE REPORT

CRYPTOSPORIDIUM INFECTION IN AN IMMATURE BABY IN INDONESIA

Tatsuya Katsumata^{1,2}, Daniel Hosea Boeditjahjono¹, Pitono Soeparto¹, Shigeru Kohno^{1,2} and
IGN Gde Ranuh¹

¹Tropical Disease Research Center, Medical School, Airlangga University, Surabaya, Indonesia;
²Second Department of Internal Medicine, Nagasaki University School of Medicine, Nagasaki, Japan

In the past decade, the coccidian parasite, *Cryptosporidium*, has been increasingly recognized as a cause of diarrhea in humans. *Cryptosporidium* infection occurs worldwide but is more prevalent as a cause of childhood diarrhea in developing countries. While this organism usually causes self limiting diarrhea in immunocompetent patients, the disease is likely to be much more serious and prolonged in immunodeficient subjects. We present a case of cryptosporidiosis which occurred in an immature baby in Indonesia.

Case : A 1-month-old male baby was admitted for diarrhea. He was born at 8 months pregnancy of his mother when his body weight was 2,000g. For 4 days he had had 3-5 brown, watery bowel movements per day along with anorexia, vomiting and severe cough. On examination he had a temperature of 37.8°C, a pulse rate of 120/minute, a body weight of 2,300g, and minimal abdominal tenderness with active bowel sounds. Hematological investigations yielded normal results. Large numbers of *Cryptosporidium* oocysts were identified by floatation in Sheather's sucrose solution with phase contrast microscopy and a Kinyoun carbol-fuchsin stain. Bacteriological and viral examination yielded negative results. The patient was given intravenous hydration with breast feeding. The diarrhea ceased 16 days later, followed by cessation of oocyst excretion after a further 6 days. Although there was suspected contact with cats, we could not find any cats which harbor the parasite in his community. Family investigation failed to

identify any asymptomatic oocyst excretors, but 4 diarrhea patients positive with *Cryptosporidium* were found in the neighborhood. The examination of river water failed to demonstrate the parasite.

The first case of human infection with *Cryptosporidium* was reported by Nime *et al* (1976). Since 1983, the number of identified cases has increased because of improved detection methods and the advent of the acquired immune deficiency syndrome. Cryptosporidiosis is characterized by non-bloody watery diarrhea, nausea, abdominal pain, anorexia and malaise, and is clinically indistinguishable from other types of diarrhea. Although numerous studies have shown that cryptosporidiosis in immunocompetent patients is self-limiting, the severity of cryptosporidiosis varies; symptoms may persist for many weeks, be short lived, or the patient may be asymptomatic (Diers and McCallister, 1989). A relatively high mortality in patients with cryptosporidiosis has also been reported by Moodley *et al* (1991). In AIDS patients, diarrhea due to the parasite becomes progressively worse with time and may cause death (Conlon *et al*, 1990). Numerous case reports of cryptosporidiosis in immunodeficient patients with other cause, such as patients on immunosuppressive chemotherapy, malnourished individuals, persons with viral infections, can be found. In these cases, cryptosporidiosis produced more severe and prolonged diarrhea depending on the ability to reverse the immunodeficiency (Bogaerts *et al*, 1984). The present case of cryptosporidiosis occurred in an immature baby exhibiting severe and prolonged diarrhea, which is in accordance with the literature. Several studies have showed that extraintestinal infection of the parasite, such as respiratory cryp-

Correspondence to: Tatsuya Katsumata, Second Department of Internal Medicine, Nagasaki University School of Medicine, Nagasaki, Japan.

cryptosporidiosis, is not uncommon in immunodeficient persons (Brady *et al*, 1984). The present case had severe prolonged cough, which might have been associated with respiratory cryptosporidiosis. Although patients with diarrhea have not been routinely screened for *Cryptosporidium* and there is little information about cryptosporidiosis in Indonesia, the parasite should be considered in diarrhea patients with immunodeficiency, such as immature babies. Since from the clinical and public health points of view *Cryptosporidium* appears to be an important pathogen in Indonesia; further work on the prevalence, incidence, seasonal variation and transmission of cryptosporidiosis is urgently needed.

ACKNOWLEDGEMENTS

We are grateful to Dr Shouji Uga, Dr Satoshi Nakamura, Dr Eddy Bagus Wasito and Dr Subianto, Harto Sudarns for their assistance.

REFERENCES

- Bogaerts J, Lepage P, Rouvroy D, Vandepitte J. *Cryptosporidium* spp, a frequent cause of diarrhea in Central Africa. *J Clin Microbiol* 1984; 20 : 874-6.
- Brady E, Margolis ML, Korzeniowski OM. Pulmonary cryptosporidiosis in acquired immune deficiency syndrome. *JAMA* 1984; 252 : 89-90.
- Conlon CP, Pinching AJ, Perera CU, Moody A, Luo NP, Lucas SB. HIV-related enteropathy in Zambia: a clinical, microbiological, and histological study. *Am J Trop Med Hyg* 1990; 42 : 83-8.
- Diers J, McCallister GL. Occurrence of *Cryptosporidium* in home daycare centers in west-central Colorado. *J Parasitol* 1989; 75 : 637-8.
- Moodley D, Jackson TFHG, Gathiram V, Vandenende J. *Cryptosporidium* infection in children in Durban. *South African Med J* 1991; 79 : 295-7.
- Nime FA, Burck JD, Page DL, Holechee MA, Yardley JH. Acute enterocolitis in a human being infected with the protozoan cryptosporidium. *Gastroenterology* 1976; 70 : 592-8.