Cryptosporidiosis in HIV seropositive patients in Kasturba Hospital, Manipal, Karnataka, South India.

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Background: Cryptosporidium parvum a coccidian protozoal parasite causes a protracted life-threatening diarrhea in HIV sero-positive patients. This study was conducted to find out distribution of cryptosporidium infection in HIV sero-positive patients (with acute or chronic diarrhea) admitted in Kasturba Hospital, Manipal, South India.

Method: Freshly passed stool samples were collected and stained with modified Ziehl Neelson staining technique and examined under microscope for the detection of oocyst of Cryptosporidium.

Results: Thirty out of 70 (42.85%) of HIV sero-positive patients were found to have Cryptosporidium parvum oocyst in their stool samples.

Conclusion: Known prevalence of cryptosporidial in HIV positive patients can help in starting prophylaxis and can significantly reduce morbidity and mortality associated with severe diarrhea.

Introduction:
Infection by the coccidian protozoa, *Cryptosporidium parvum* has been recognized as a significant cause of morbidity and occasional death in immunocompromised patient. Cryptosporidium inhabits primarily microvillous brush border of intestinal epithelial cells2. Cell mediated immunity is required to prevent heavy infection. Cryptosporidiosis is now considered as AIDS defining illness. Early diagnosis and initiation of antibiotic treatment significantly reduce mortality and morbidity associated with severe diarrhea caused by this parasite.

Material and Methods:
Present study was conducted at the Department of Micobiology, Kasturba Hospital, Manipal, Karnataka, South India over a period of 19 months (June 1999-December 2000). A total of 70 patients admitted in Kasturba Hospital, whose HIV status was confirmed by HIV ELISA and Dot blot were selected for the study. Freshly passed stool samples were collected in sterile dry leak proof container. Formol Ether concentration method was used to concentrate the sample. Modified Ziehl Neelson staining was used to demonstrate the Cryptosporidial cysts in faecal smear2.

Results:
A total of 70 HIV sero-positive patients were included in this study group. A total of 30 Out of 70 HIV sero-positive patients 30 (42.85%) patients had oocyst of *Cryptosporidium parvum.*

Table 1. Age wise Distribution of Cryptosporidium parvum in HIV positive patients

Age in years	Male	Female			Total Positives	Age Specific Positives%
	No.(n)	Positive	No.(n)	Positive		
20-30	24	9(37.5%)	3	2(66.7%)	11	40.7
30-40	33	16(48.5%)	5	2(40%)	18	47.4
41&>	4	1(25%)	1	0	1	20
Total	61	26(42.6%)	9	4(44.4%)	30	42.9

Discussion:
Prevalence of Cryptosporidiosis was 42.9% i.e. 30 out of 70 among HIV sero-positive patients in Kasturba Hospital Manipal. According to the study done by National AIDS Control Organization India (1986-1996) it was found to be 31%3.
In United States and Europe in two series, Cryptosporidium was found to be commonest enteropathogen accounting for 11-37% In less developing countries prevalence ranges from 9-48% in Africa, Latin America and Asia4. A survey of intestinal parasites among the HIV positive asymptomatic patients revealed the highest percentage i.e. 94.4% of Cryptosporidium species among all parasites5. Out of total 8220 AIDS cases reported between May 1986 to July 1999 in India (NACO), the percentage of Cryptosporidiosis was found to be 31%3. Low

socioeconomic status, poor hygiene, unavailability of safe drinking water and frequent contact with livestock may be responsible for the high percentage of Cryptosporidiosis.

Conclusion:

Opportunistic infections are major cause of morbidity and mortality of AIDS patents. The early identification of such pathogens is very important to effectively manage the cases. Knowing the prevalence of pathogen in a region helps to start empiric treatment, as lab facilities are limited in developing countries.

Refrences:

1. Ramakrishna BS. Prevalence of intestinal pathogens in HIV patients with diarrhea. Implication of treatment, *Indian J. Pediatries.* 1999, **66**:85-91.
2. Bailey and Scott, Diagnostic Microbiology, 10th edition Mosy publication. 1998
3. National Guidelines for Clinical Management of HIV/ AIDS, National AIDS Control Organization, Ministry of Health and Family Welfare. Govt. of India; 2000
4. Mandell GL, Douglas RGJ and Bennett JE. *Principles and Practice of Infectious Diseases.* **Vol. 2**. 5th Edition, New York, Churchill Livingstone. 2000
5. Anand L, Dhyanchanda C and Brajachand etal. Prevalence and Epidemilogical characteristies of opportunistic and non-opportunistic intestinal parasitic infections in HIV positive patients in Manipur. *J. Commun. Ds*. 1990 **30 (1)**: 19-22.