

## Original Research Article

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# Descriptive study of gastrointestinal manifestations in HIV/AIDS

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## ABSTRACT

**Background:** Acquired Immunodeficiency Syndrome (AIDS) was first recognized in 1981 as a clinical syndrome consisting of opportunistic infections and /or neoplasia associated with unexplained immunodeficiency. The gastrointestinal tract is one of the most common sites of clinical affection of AIDS and all levels from the oral cavity to the anus are frequently involved.

**Methods:** A cohort of 70 HIV positive patients, admitted in a tertiary level referral hospital, were studied for symptoms of gastrointestinal disease and patients with clinical or investigative findings of gastrointestinal disease were clinically examined and then subjected to further relevant investigations.

**Results:** The prevalence of GI manifestations in this cohort was 71.4%. The mean age of the study population was 36 years. Amongst frequency of GI manifestations, diarrhoea was found in 26 patients (52%), of whom 77% (20 out of 26) had diarrhoea lasting longer than one month and amongst the patients with oral ulcers, oral candidiasis was the most common oral manifestation, present in 87% of them. Cryptosporidium was the most common organism isolated from the stool samples.

**Conclusions:** The most common presenting complaints were oral ulcers and chronic diarrhoea amongst the cohort examined in this study.

**Keywords:** Diarrhoea, GI Manifestations, HIV, Oral manifestations

## INTRODUCTION

Acquired Immunodeficiency Syndrome (AIDS) was first recognized in 1981 as a clinical syndrome consisting of opportunistic infections and /or neoplasia associated with unexplained immunodeficiency. Human Immunodeficiency Virus (HIV) was isolated from a patient with lymphadenopathy in 1983, and it was established as the causative organism for AIDS in 1984. The Enzyme Linked Immunosorbent Assay (ELISA) for HIV was developed in 1985.

The gastrointestinal tract is one of the most common sites of clinical affection of AIDS and all levels from the oral cavity to the anus are frequently involved.

Gastrointestinal symptoms, particularly diarrhoea occur in 30 to 50% of AIDS patients in developed countries, and in almost 90% in developing countries.<sup>1</sup>

### Clinical Syndromes

- Disorders of food intake: The most common complaints are sore throat and odynophagia, sometimes with choking or substernal discomfort. Food intake is decreased and the oral cavity may become more sensitive to temperature and acidity.<sup>2,3</sup>
- Dyspepsia: Nausea and vomiting are common symptoms in HIV infected patients but rarely dominate the clinical picture. Symptomatic gastritis due to H. Pylori has been found but is not common.<sup>4,5</sup>

- Diarrhoea and wasting: Although early studies reported large number of patients with unexplained diarrhoea, an infectious agent can be found in most comprehensively evaluated patients.<sup>1,6</sup>
- Abdominal Tuberculosis: As per studies in the United States and many developing countries, extrapulmonary tuberculosis alone or in association with pulmonary disease has been documented in 40 to 60% of the cases in HIV co-infected individuals.<sup>7,8</sup>
- Anorectal diseases: The anorectal region may be affected by ulcers, masses, warts, infections, haemorrhoids.<sup>9</sup>

Aim and objectives of the research work was to study the clinical spectrum of gastro-intestinal manifestations in HIV infected patients. Also, to study the pattern of various gastrointestinal diseases in the HIV positive patients and to study the prevalence of various enteric pathogens causing diarrhea in HIV positive patients.

## METHODS

The present study was carried out in a tertiary level referral hospital. A cohort of 70 HIV positive patients, admitted in the hospital, was included over a period of 29 months. Of these 70 patients, 50 patients who had symptoms of gastrointestinal disease, viz oral ulcers, odynophagia, dysphagia, pain abdomen, lump abdomen, nausea, vomiting, diarrhoea; and patients with clinical or investigative findings of gastrointestinal disease were clinically examined and then subjected to further relevant investigations. Chronic diarrhoea was diagnosed when it was present for more than 30 days where 3 or more unformed stools were passed daily on 2 or more days a week with at least one unformed stool being passed daily.

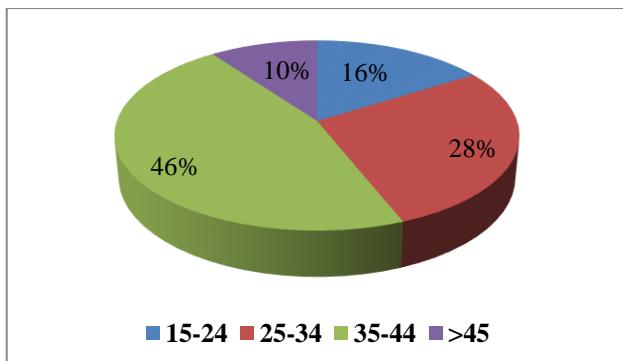
HIV status was confirmed using 3 different serological tests- ELISA, Rapid Test and Simple Test. If two of the three were positive, the patient was considered to be HIV positive. Stool examination and culture was carried out in all patients with diarrhoea.

### Exclusion criteria

Patients on ART (Anti-Retroviral therapy) were excluded as the ART drugs themselves are responsible for a large number of gastrointestinal side-effects. Patients below the age of 13 years were also excluded from the study.

## RESULTS

The prevalence of GI manifestations in this cohort was 71.4%. The mean age of the study population was 36 years, and the maximum percentage of patients studied, were in the group of 35-44 years. The number of male patients outnumbered the female patients, and the male to female ratio was 9:1.



**Figure 1: Age distribution amongst study participants.**

**Table 1: Frequency of GI manifestations.**

Complaints	Number	Percentage
Oral Ulceration	20	40%
Diarrhoea > 1 month	20	40%
Pain Abdomen	15	30%
Dysphagia	10	20%
Diarrhoea < 1 month	6	12%
Vomiting	4	8%

**Table 2: Various oral manifestations.**

Manifestation	Number	Percentage
Oral candidiasis	26	87%
Oral hairy leukoplakia	1	3%
Ulcers (aphthous)	3	10%
Total	30	100%

**Table 3: Oesophageal manifestations.**

Condition	Number	Percentage
Oesophageal candidiasis	9	90%
Non candidial	1	10%
Oesophagitis		
Total	10	100%

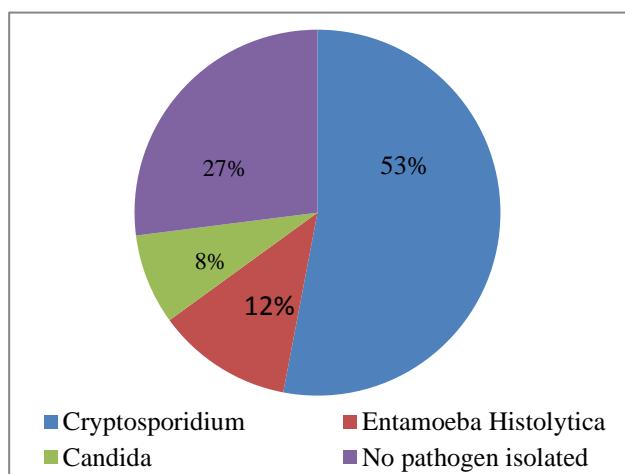
The frequency of gastrointestinal manifestations of the various HIV positive patients were as given in Table 1. Diarrhoea was found in 26 patients (52%), of whom 77% (20 out of 26) had diarrhoea lasting longer than one month fulfilling the criteria for chronic diarrhoea. Dysphagia suggestive of oesophageal involvement was found in 20% of the patients.

The patients were clinically diagnosed as having one of the three conditions mentioned in Table 2. Of the 30 patients with oral ulcers, Oral candidiasis was the most common oral manifestation, present in 26 (87%) of them. Oral hairy leukoplakia was found in one patient, and ulcers whose cause was not found (aphthous) were seen in three patients.

There were 10 patients with dysphagia, 9 of whom also had oral candidiasis. Those with candidiasis, who had improvement of their odynophagia/dysphagia with antifungal treatment, were presumptively diagnosed as having oesophageal candidiasis. One patient underwent barium study (Barium swallow). The one patient who did not have oral candidiasis, was found to have oral hairy leukoplakia. Neither his OHL, nor his odynophagia improved with treatment. Hence, he was presumed to have oesophagitis due to causes other than candidiasis.

### Gastric problems

There were 4 patients who had vomiting on presentation. They had symptoms suggestive of gastritis, but the cause could not be established.



**Figure 2: Enteric pathogens found in stool samples.**

Cryptosporidium was the most common organism isolated from the stool samples (53%). Three patients were found to have E. histolytica cysts in the stool sample, while two others had Candida in their stool sample. No pathogen could be isolated from stool samples of 7 patients.

### DISCUSSION

Diarrhoea was the presenting complaint in 26 patients (52%), of whom 77% (20 out of 26) had chronic diarrhea. 20 patients (40%) had presented with oral ulcers. Dysphagia suggestive of oesophageal involvement was found in 22% of the patients. These findings are compared with another Indian study in Table 5.<sup>10</sup>

Amongst patients with oral manifestations a total of 30 patients had some oral manifestation. This constitutes 60% of the cases included in our study. Of these, 67% had presented with complaints of ulcers in the mouth. 33% of the patients had no symptoms, but on examination had some oral lesion. In the late stage of disease, oral manifestations are highly prevalent and frequently severe.<sup>11,12</sup> Oral candidiasis was the most common oral manifestation, present in 26 patients (87%).

The diagnosis of candidiasis is frequently made on the basis of physical examination alone.<sup>13</sup>

Amongst Oesophageal manifestations, 10 Patients (20%) in this study had Dysphagia. Oesophageal disease occurs commonly among HIV-infected persons, affecting up to one third of persons with AIDS.<sup>14</sup> Amongst Gastric problems there were 4 patients who had vomiting on presentation. They had symptoms suggestive of gastritis, but the cause could not be established. 26 patients in our study (52%) had diarrhea. the clinical manifestations of small and large bowel infections may be indistinguishable, and some processes may cause panenteritis.<sup>15</sup> Cryptosporidium was the most common organism isolated from the stool samples in 14 patients. (53%). Protozoa are the most prevalent class of diarrhoeal pathogens in most series in part because many of these infections are refractory to treatment.<sup>16</sup>

### CONCLUSION

The most common presenting complaints were oral ulcers and diarrhoea of more than one-month duration. Oral candidiasis was the most common GI manifestation present in 52% of the patients. Of the patients presenting with diarrhoea, cryptosporidium was the most common organism found in 14 patients (53%).

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