

Case Report
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Triple Parasitic Infestation in an Immunocompromised Patient: A Rare Entity

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ABSTRACT

Parasitic infections are common in immunocompromised individual, especially in HIV patients affecting the gastrointestinal tract causing severe & chronic diarrhoea. A HIV positive male patient presented to gastroenterology OPD with on and off complaints of loose stools and altered bowel habits since last one month. His CD4 cell counts were normal since last one-year record. On examination of his stool sample, larva of *Strongyloides spp.*, oocysts of *Cryptosporidium parvum* and *Cystoisospora belli* were found. Treatment was initiated for triple parasitic infection and discharged when repeat sample

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Received: September 20, 2022; **Accepted:** September 29, 2022; **Published:** October 15, 2022

Keywords: Hiv/Aids, Parasitic Infestation, Diarrhoea

Introduction

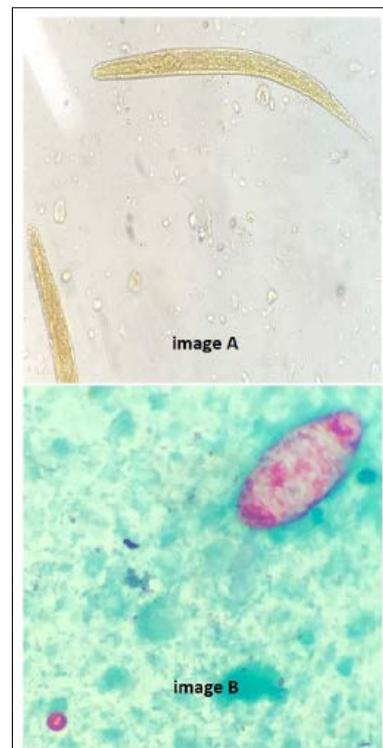
Parasitic infections of the gastrointestinal tract are one of the highest causes of morbidity and mortality among HIV infected individuals mainly in third world countries & it's due to the colonization of the intestinal tract by parasites influenced by induced enteropathy caused by HIV infection [1]. The frequency of infection & isolation of intracellular intestinal protozoans like *Cryptosporidium parvum*, *Cyclospora cayetanensis* and *Cystoisospora belli* are higher in HIV infected individuals [2].

However, the occurrence of simultaneous multiple parasitic infections or co-infections with other non-parasitic pathogens in a person who is on antiretroviral therapy (ART) have been rarely reported. Here we report an interesting case of triple parasitic infestation in a known patient of HIV/AIDS.

Case Report

A 48-year-old HIV positive male resident of rural Uttar Pradesh presented to the gastroenterology OPD with on & off complaints of loose stools and altered bowel habits for past one month. He is a farmer by profession & post HIV seropositivity (for last 20 years); he has taken his anti-retro viral medications continuously. His CD4+ T lymphocyte counts were within normal limits as per the record of one year. There was no history of fever, abdominal pain or any other constitutional symptom. In the last 10 days, presenting symptoms got aggravated and passage of stool mixed with blood was noticed. The patient was admitted in the gastroenterology ward and stool sample was sent to the microbiology department for routine microscopy & culture. Reddish yellow coloured semisolid stool was received. Motile larva of *Strongyloides spp.* was found in direct microscopy (normal saline and iodine mount) [Image

A]. After performing formol-ether concentration, modified ZN staining (1%) was performed. The stained smear showed oocysts of *Cryptosporidium parvum* and *Cystoisospora belli* [Image B]. The triple parasitic infestation report was intimated to the clinician & anti-parasitic drugs were started. Patient started improving clinically as symptoms decreased post treatment. Ultimately before discharge, repeat sampling was done thrice which was negative each time.



Discussion

HIV/AIDS has become a major public health challenge in recent years. The developing countries including countries of south-east Asia shows high rate of HIV/AIDS infection due to various reasons [3]. Parasitic infestation which is a part of opportunistic infection is common among these individuals, is another major public health problem in India and worldwide [4,5]. The prevalence of gastrointestinal parasitic infections in these patients has been increased in recent years and intracellular protozoa including *Cystoisospora belli*, *Cryptosporidium parvum*, and *Cyclospora spp.* are commonly seen. However, extracellular parasites are also reported, mainly *Strongyloides stercoralis* [6]. The Parasites which were found from our immunocompromised patient were *Strongyloides*, *Cryptosporidium parvum* and *Cystoisospora belli*. Similar case reports are found in literature which are having multiple parasitic infection of *Giardia lamblia*, *Strongyloides stercoralis* and *Cryptosporidium species* in a single host who was a 35-year-old male [7]. A study from North India showed similar coccidian parasite isolation in HIV/AIDS patients; *Cystoisospora belli* and *Cryptosporidium spp.* being the most common [8]. Another study done in 2013 from India demonstrated most common parasites in HIV patients were *Cryptosporidium parvum*, followed by *Entamoeba histolytica*, *Cystoisospora belli*, hookworm, *Cyclospora* and *Microsporidia* [9]. Hence it could be deduced that gastrointestinal parasitic infections are common in HIV patients and mostly same organisms are found in stools.

Conclusion

Screening of HIV infected individuals for gastrointestinal parasitic infections should be carried out frequently & inclusion of anti-parasitic drugs as prophylaxis for care and treatment of infected persons is highly recommended. This will reduce morbidity, enhance antiretroviral treatment success and ultimately improve their well-being.

Financial Support and Sponsorship

Nil.

Conflicts of Interest

There are no conflicts of interest.

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