Letters to Editor

Sir,

Strongyloidiasis remains a neglected tropical disease as reflected by the paucity of published literature from India.[1,2] We conducted a retrospective, descriptive study on thirty patients, who were diagnosed with strongyloidiasis in our hospital. The patients were diagnosed using wet mount microscopy. The majority of the patients diagnosed with strongyloidiasis were in the age group of 31–40 years (10/30, 33%). The proportion of diseased males (24/30, 80%) was significantly higher than the females (6/30, 20%). Eighteen of the thirty patients had other coexisting conditions [Table 1]. HIV infection was most commonly associated with strongyloidiasis in our study, which was in concordance with another study from our country.[3] Increasing number of cases with strongyloidiasis reported in transplant settings has encouraged recommendations for a pretransplant screening.[4]

The mean number of larvae detected from the samples of immunosuppressed versus immunocompetent patients was 21.7/cover slip area and 2.9/cover slip area, respectively. There were five patients with severe manifestations and increased load of rhabditiform larvae in stool. Four of these five patients with severe manifestations had HIV infection while one was a liver transplant recipient. A definite diagnosis of hyperinfection syndrome was possible in only one of these patients in whom

| Age | Gender | Coexisting illness                  | Larvae/cover slip area | Concomitant parasitic infections                  | Treatment            |
|-----|--------|------------------------------------|------------------------|-------------------------------------------------|----------------------|
| 35  | Female | HIV infection                      | 5                      | Nil                                              | Oral ivermectin      |
| 35  | Male   | HIV infection                      | 28*                    | Nil                                              | Oral ivermectin      |
| 35  | Male   | Post liver transplant              | 29*                    | Nil                                              | Oral albendazole     |
| 40  | Male   | HIV infection                      | 1                      | Oocysts of *C. belli*                            | Oral ivermectin      |
| 24  | Female | HIV infection                      | 2                      | Nil                                              | Oral ivermectin      |
| 44  | Female | HIV infection on steroids          | 6                      | Nil                                              | Oral ivermectin      |
| 12  | Female | Chronic heart disease              | 2                      | Nil                                              | Oral ivermectin      |
| 35  | Male   | Nodular lymphoid hyperplasia       | 1                      | Nil                                              | Oral ivermectin      |
| 35  | Male   | FBD                                | 1                      | Nil                                              | Oral ivermectin      |
| 7   | Male   | Chronic diarrhea                   | 6                      | Nil                                              | Oral albendazole     |
| 10  | Male   | Chronic diarrhea                   | 1                      | Cysts of *G. intestinalis*                       | Oral ivermectin      |
| 45  | Male   | Chronic diarrhea                   | 9                      | Nil                                              | Oral ivermectin      |
| 16  | Male   | Chronic diarrhea                   | 2                      | Nil                                              | Oral ivermectin      |
| 40  | Male   | FBD                                | 1                      | Nil                                              | Oral ivermectin      |
| 16  | Male   | HIV infection                      | 32*                    | Eggs of *A. lumbricoides* and hookworm, cysts of *E. coli* | Oral ivermectin      |
| 5   | Male   | Chronic diarrhea                   | 2                      | Cysts of *E. coli* and *Endolimax nana*          | Oral albendazole     |
| 40  | Male   | HIV infection                      | 2                      | Oocysts of *Cryptosporidium* spp                 | Oral ivermectin      |
| 8   | Male   | Chronic diarrhea                   | 5                      | Nil                                              | Oral albendazole     |
| 20  | Male   | Chronic diarrhea                   | 1                      | Nil                                              | Oral ivermectin      |
| 7   | Male   | Chronic diarrhoea                  | 6                      | Nil                                              | Oral albendazole     |
| 2   | Male   | HIV infection                      | 1                      | Oocysts of *C. belli*                            | Oral albendazole     |
| 32  | Male   | HIV infection                      | 200*                   | Oocysts of *Cryptosporidium* spp                 | Oral ivermectin      |
| 60  | Male   | HIV infection                      | 5                      | Nil                                              | Oral ivermectin      |
| 8   | Male   | HIV infection                      | 2                      | Nil                                              | Oral ivermectin      |
| 40  | Male   | Chronic diarrhea                   | 3                      | Nil                                              | Oral ivermectin      |
| 44  | Female | Postrenal transplant               | 2                      | Nil                                              | Oral albendazole     |
| 55  | Male   | FBD on steroids                    | 2                      | Nil                                              | Oral ivermectin      |
| 23  | Male   | Postrenal transplant               | 4                      | Nil                                              | Oral albendazole     |
| 43  | Female | HIV infection                      | 7**                    | Nil                                              | Nasogastric ivermectin|
| 19  | Male   | Chronic abdominal pain             | 1                      | Cysts of *Endolimax nana*, *E. coli*, *I. buetschlii*, *G. intestinalis* Eggs of *A. lumbricoides*, hookworm, *T. trichiura* | Oral albendazole     |

*Severe cases with exaggerated symptoms and increased parasitic load, **Diagnosed as hyperinfection. FBD: Functional bowel disease, IBD: Inflammatory bowel disease, *A. lumbricoides*: *Ascaris lumbricoides*, *E. coli*: *Entamoeba coli*, *C. belli*: *Cystoisospora belli*, *I. buetschlii*: *Iodamoeba butschlii*, *T. trichiura*: *Trichuris trichiura*, *G. intestinalis*: *Giardia intestinalis*
filariform larvae were demonstrated in the tracheal aspirate. The global increase in the number of immunosuppressed individuals coupled with the high parasitic load and severe manifestations noted in these patients suggests that there is a definite need for heightening suspicion, diagnosing early, and promptly treating these patients.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

Nitin Gupta, Aashish Choudhary1, Bijay Ranjan Mirdha1, Pratibha Kale1, Kamla Kant1, Arnab Ghosh1, Nishant Verma1
Department of Medicine and Microbiology, Division of Infectious Disease, All India Institute of Medical Sciences, 1Department of Microbiology, All India Institute of Medical Sciences, New Delhi, India

Address for correspondence: Dr. Bijay Ranjan Mirdha, Room No 2078, Department of Microbiology, 2nd Floor, Teaching Block, All India Institute of Medical Sciences, Ansari Nagar, New Delhi - 110 029, India. E-mail: mirdhabr2078@gmail.com

REFERENCES
1. Khuroo MS. Hyperinfection strongyloidiasis in renal transplant recipients. BMJ Case Rep 2014;2014. pii: Bcr2014205068.
2. Tiwari S, Rautaraya B, Tripathy KP. Hyperinfection of Strongyloides stercoralis in an immunocompetent patient. Trop Parasitol 2012;2:135-7.
3. Chordia P, Christopher S, Abraham OC, Muliyil J, Kang G, Ajjampur SS. Risk factors for acquiring Strongyloides stercoralis infection among patients attending a tertiary hospital in South India. Indian J Med Microbiol 2011;29:147-51.
4. Avery RK. Recipient screening prior to solid-organ transplantation. Clin Infect Dis 2002;35:1513-9.

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.