

Triple worm infestation in an HIV-infected patient

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A 32-year-old female African patient presented to the emergency department for abdominal pain. She had been diagnosed with HIV infection 3 years earlier. She was ART-naïve with a CD4-T cell count of 456/ μ l and a viral load of 626 cp/ml. Her C-reactive protein level was ele-

vated at 84.3 mg/l, and no other laboratory abnormality was noted.

Surgery for suspected appendicitis was performed. Histopathological work-up revealed phlegmonous appendicitis with localized eosinophilic infiltration and necrotic epithelioid granulomas (Fig. 1a, b). Differential diagnoses included eosinophilic gastroenteritis, hematologic malignancy, and mycobacterial infection. Finally, three species of intestinal worms, *Schistosoma mansoni* (Fig. 1c), *Strongyloides stercoralis* (Fig. 1d), and *Dicrocoelium dendriticum* (Fig. 1e) were detected in a stool sample. Anthelmintic treatment with praziquantel (1,800 mg on days 1 and 8) and albendazole (800 mg qd on days 1–3 and 8–10) was administered. Further stool samples were negative, and the patient remained asymptomatic. The CD4-T-cell counts measured 1 and 4 months later were somewhat higher at 675 and 633/ μ l, respectively.

More than two billion individuals are estimated to be infected with one or more helminth species [1, 2] and over 22 million are HIV-coinfected [3, 4], especially in sub-Saharan Africa. Typical clinical signs and symptoms or laboratory abnormalities are often absent, despite the frequency of typical histopathologic alterations such as eosinophilic granulomas in chronic schistosomiasis [5]. Helminthic infections are not considered to be opportunistic infections. However, helminth-induced immunomodulation may affect the CD4 count [3–6]. The benefit of deworming in helminth/HIV-coinfection is suggested by several studies, but its effect may vary by individual helminth species [4]. Routine screening for tropical parasites according to travel or origin is recommended by current HIV treatment guidelines [7], reflecting the travel- and migration-related increasing overlap of tropical medicine and HIV care also in developed countries [8].

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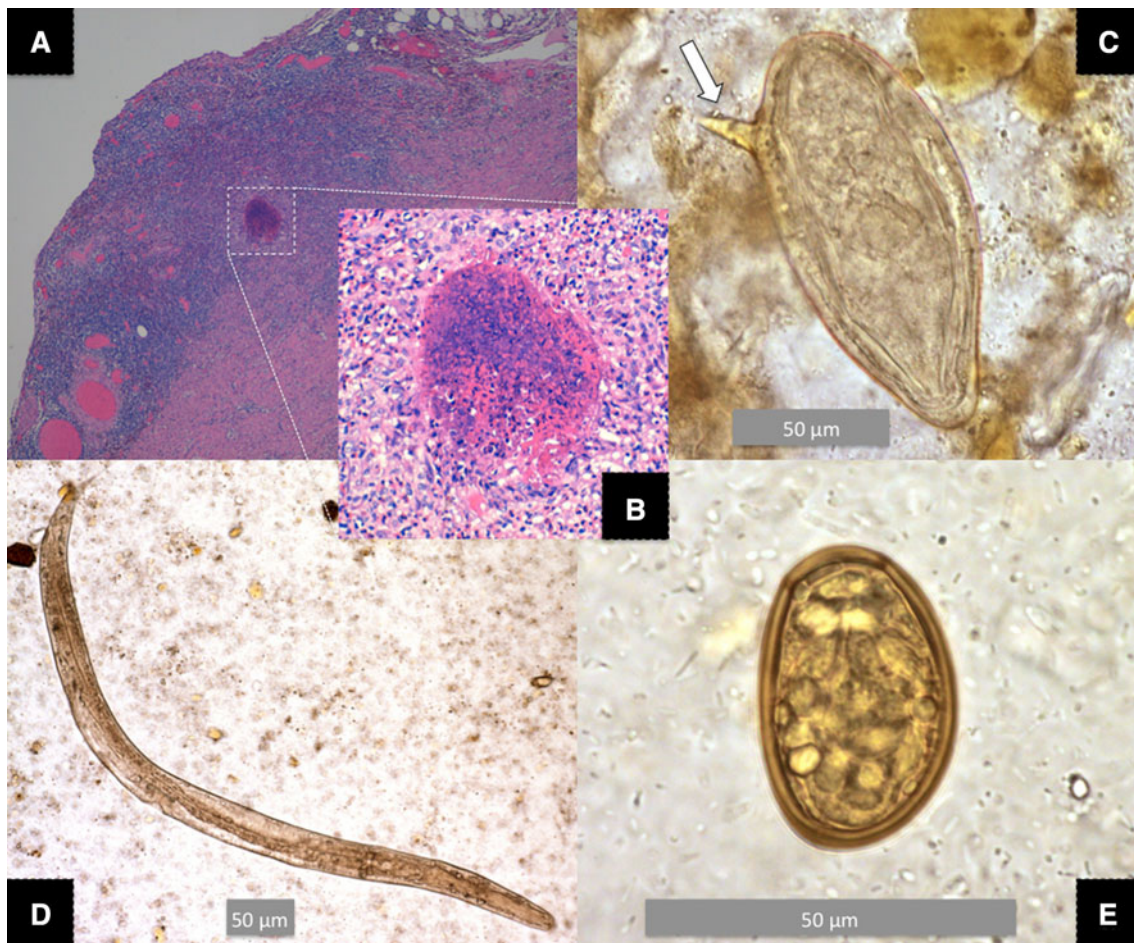


Fig. 1 **a** Phlegmonous appendicitis with eosinophilic infiltration and **b** necrotic granuloma. **c** *Schistosoma mansoni* egg with lateral spine (arrow). **d** *Strongyloides stercoralis* larva. **e** *Dicrocoelium dendriticum* egg

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

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