What goes around, comes around

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DESCRIPTION

A 60-year-old Caucasian Portuguese man, who had emigrated from Mozambique 30 years earlier, presented to our department with a 1-month history of epigastric pain, nausea, vomiting, weight loss and watery diarrhoea. He had two previous episodes of treated symptomatic intestinal strongyloidiasis (by unknown drug, 2006 and 2009). On physical examination, he was afebrile, diaphoretic and tachycardic. There was no tenderness at abdominal examination. Laboratory tests revealed mild normocytic and normochromic anaemia (haemoglobin (Hb)=11.6 g/dL), elevated C reactive protein (CRP=3.0 mg/dL) with normal leukogram. An esophagogastroduodenoscopy was performed revealing extensive non-ulcerative duodenitis and villous atrophy (figure 1). Biopsies taken from the small bowel showed mucosal oedema, a moderate mixed inflammatory cell infiltration, villous atrophy and numerous larvae, morphologically resembling *Strongyloides stercoralis* (figure 2). Serologies for HIV-1, HIV-2 and HTLV-1 were negative. Immunological tests (lymphocyte subpopulations, immunoglobulins and complement) were also normal. Later, previously collected stool cultures isolated *S. stercoralis* larvae. Thus, the patient was medicated with a course of oral ivermectin over 2 days. Repeated stool cultures after 4 weeks of therapy and anti-*Strongyloides* antibodies after 6 months were negative and the patient remains symptom free.

S. stercoralis displays a complex and unique developmental phase with two distinct life cycles: a free-living heterogonic cycle and a parasitic life cycle completed in the same host. The latter phase allows non-infective new larvae to moult in the human host into infective filariform larvae, which

then penetrate the intestine and set up a new cycle, leading to autoinfection or hyperinfection.¹ This autoinfective stage is responsible for the long-standing persistence of infection in untreated hosts. Although most chronic infections are asymptomatic,² diarrhoea, constipation and intermittent vomiting can occur due to gastrointestinal involvement. The diagnosis of strongyloidiasis requires a high degree of suspicion, as most infected patients do not show distinctive clinical features, and laboratory findings often turn out non-specific.³ In our patient, given his African (endemic) background and two previous episodes of strongyloidiasis, the diagnosis seemed straightforward; however, it is not common to observe such recurrent and persistent cases of infection in immunocompetent patients.

Learning points

- ▶ Parasitic worms are found worldwide. Patients who emigrate from endemic areas, presenting with non-specific gastrointestinal symptoms, mainly diarrhoea or epigastric pain, can be infected with a wide range of helminths.
- ▶ *Strongyloides stercoralis* is a free-living tropical and semitropical soil helminth. In its life cycle, a critical feature enables its larvae to reinfect (autoinfect) the host, so subclinical strongyloidiasis can persist for many decades after the host has left an endemic area.
- ▶ Physicians need to be aware of this helminthic infection and its life cycle, and recognise its potential to cause severe disease even after a long-standing dormant infection.

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Figure 1 Endoscopic images of the duodenal bulb and second portion of the duodenum demonstrating a non-ulcerative duodenitis with villous atrophy.

Figure 2 Duodenal biopsies (H&E) showing numerous adult nematode larvae and eggs, severe villi blunting and a moderate mixed inflammatory cell infiltration.

Contributors PM-C diagnosed and treated the patient, and wrote the manuscript.

Competing interests None.

Patient consent Obtained.

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