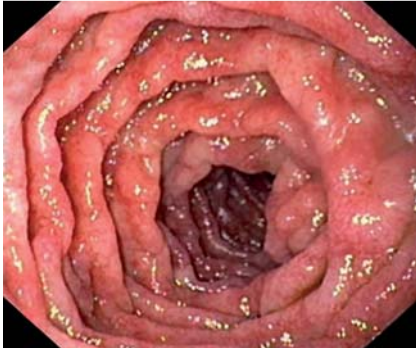


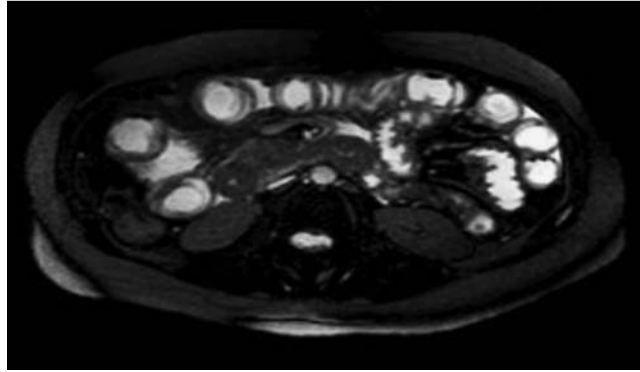
## Intestinal strongyloidiasis as a presenting symptom of HTLV-1-associated adult T-cell leukemia/lymphoma



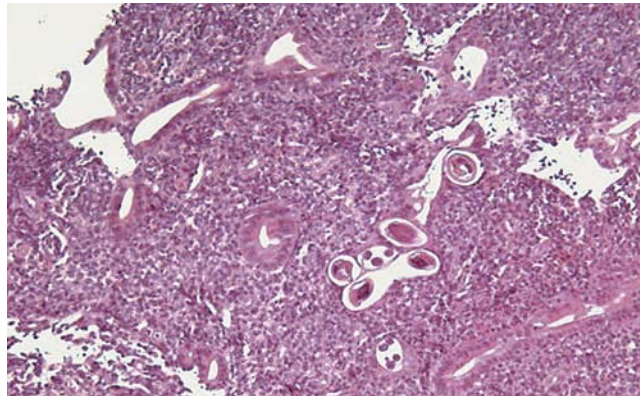
**Fig. 1** Gastroduodenoscopy showing thickened folds and erythematous mucosa in the duodenum.



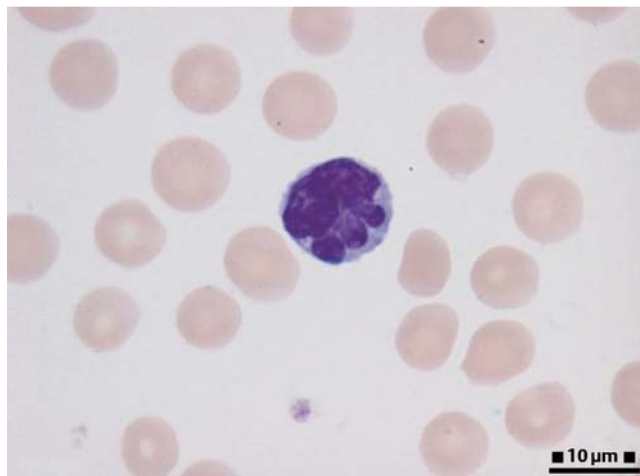
**Fig. 2** Colitis with oedema, erosions, and loss of vascular pattern.



**Fig. 3** Magnetic resonance imaging (MRI) of the small bowel, revealing thickening of the duodenal wall and folds.



**Fig. 4** Duodenal biopsy illustrating microorganisms compatible with *S. stercoralis*.



**Fig. 5** Multilobulated nuclei or "flower cells" in a peripheral blood smear – characteristic for adult T-cell leukemia/lymphoma.

A 57-year-old man with diabetes presented with dysphagia, severe weight loss, and frequent watery stools. He had emigrated to the Netherlands from Suriname 23 years ago. Apart from a cachectic appearance, the physical examination revealed no abnormalities. Laboratory investigations showed leukocytosis but no eosinophilia, slightly raised lactate dehydrogenase, and mild hypercalcemia. Gastroduodenoscopy revealed pangastritis and duodenitis (● Fig. 1). Ileocolonoscopy showed a mild, discontinuous colitis, more severe in the proximal colon, and a terminal ileitis (● Fig. 2). Computed tomography (CT) scanning of the neck, chest, and abdomen showed no lymphadenopathy or splenomegaly. Magnetic resonance imaging (MRI) of the small bowel revealed thickening of the duodenal wall and folds (● Fig. 3). Stool examinations as well as duodenal biopsy samples were positive

for *Strongyloides stercoralis* (● Fig. 4), and treatment with oral ivermectin was initiated. Meanwhile, the hypercalcemia worsened, which was suggestive of human T-cell lymphotropic virus type 1 (HTLV-1)-associated adult T-cell leukemia/lymphoma (ATLL). Serological testing for HTLV-1 was positive, and a peripheral blood smear

showed the characteristic "flower cells" of ATLL (● Fig. 5). Bone marrow biopsy and subsequent immunophenotyping were compatible with this diagnosis. The patient was treated with chemotherapy and ritonavir, but died shortly afterwards as a result of *Streptococcus milleri* sepsis and multiple organ failure.

*S. stercoralis* is an intestinal nematode endemic in the (sub)tropical regions of the world [1]. The majority of infections are asymptomatic. However, patients with HTLV-1 coinfection have defective cell-mediated immunity and are prone to develop disseminated strongyloidiasis [2]. Among those who contract HTLV-1 infection early in life, a minority may develop ATLL [3].

ATLL is an aggressive lymphoproliferative disease of CD4<sup>+</sup> cells into which the HTLV-1 provirus has integrated. Treatment options are limited and results are disappointing [4]. In conclusion, infection with *S. stercoralis* should be considered in patients presenting with enterocolitis, especially in those from endemic areas or in those who are immunocompromised [5]. The combination of disseminated strongyloidiasis and hypercalcemia is strongly suggestive of HTLV-1-associated lymphoma.

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