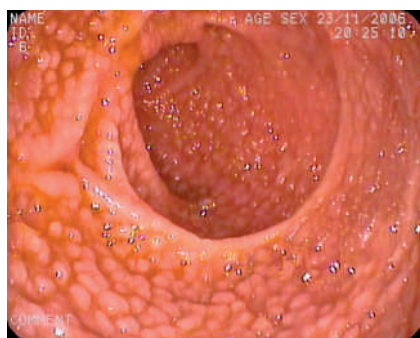


## Nodular lymphoid hyperplasia by *Giardia lamblia*



**Fig. 1** Multiple 2–3 mm nodules in the duodenum compatible with nodular lymphoid hyperplasia (direct vision).

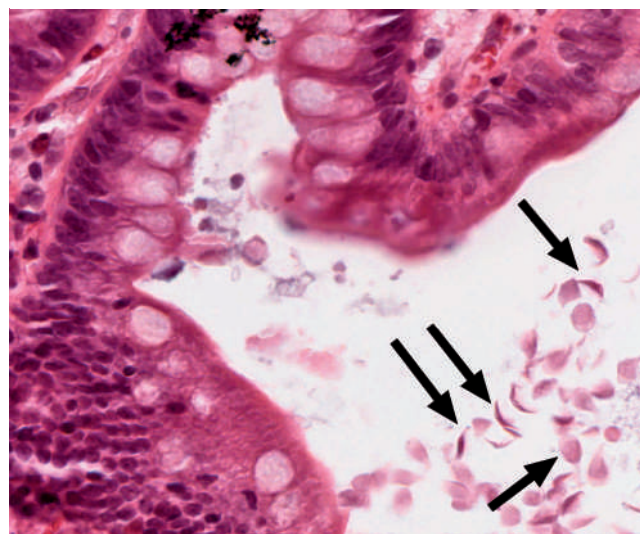


**Fig. 2** Multiple nodules in the duodenum (water immersion).

*Giardia lamblia* is a flagellated protozoan. Clinical features of giardiasis vary greatly between individuals and may range from asymptomatic infection to severe malabsorption syndrome. Whereas individuals with various forms of hypogammaglobulinemia may show more severe disease and damage to the intestinal villi, AIDS patients do not appear to be at increased risk of severe giardiasis [1]. We present a case of duodenal giardiasis in a patient with IgA deficit.

A 59-year-old woman came to the clinic with asthenia. Laboratory tests showed macrocytosis, hypersegmentation of neutrophils, vitamin B12 < 60 pg/mL, iron deficiency, and IgA deficit. Upper endoscopy was performed and this revealed several 2–3-mm nodules in the duodenum (● Fig. 1) that were also observed under water (● Fig. 2); she also presented two linear ulcers on the duodenal bulb. A biopsy of the duodenum revealed acute and chronic inflammation of the mucosa with lymphoid follicles and abundant eosinophils. The patient presented subtotal atrophy of the villi and *Giardia lamblia* (● Fig. 3 and 4), and was treated with metronidazole. A check-up at 6 months showed that the nodules and the subtotal atrophy of the villi had disappeared (● Fig. 5).

Diagnosis of *Giardia* infection is made by examination of the feces. Enzyme-linked immunosorbent assay procedures for the presence of *Giardia* antigen in the stool are reported to be more sensitive than microscopic examination [1]. Conventional studies may not be efficacious in



**Fig. 3** Low-power view showing numerous giardial parasites in the mucus between the intestinal villi (arrows); hematoxylin and eosin, × 20.

asymptomatic patients or patients with anemia, and duodenal biopsy by endoscopy enables a diagnosis to be made. In the case described above, the endoscopic image that appears because of giardiasis is very interesting. The nodules are perfectly defined by standard endoscopy and water immersion. The diagnosis was confirmed by the duodenal biopsy [2]. Finally, we must remember that *Giardia* can persist when there is an IgA deficit with nodular lymphoid hyperplasia [3,4], and that it can lead to a picture of associated malabsorption.

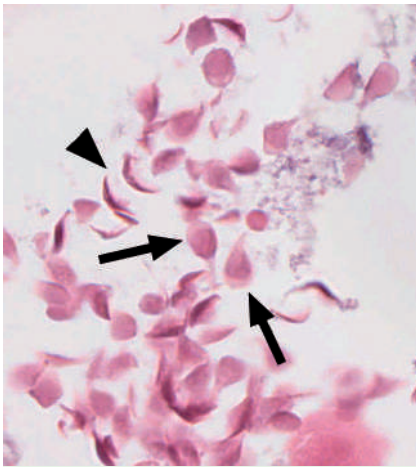
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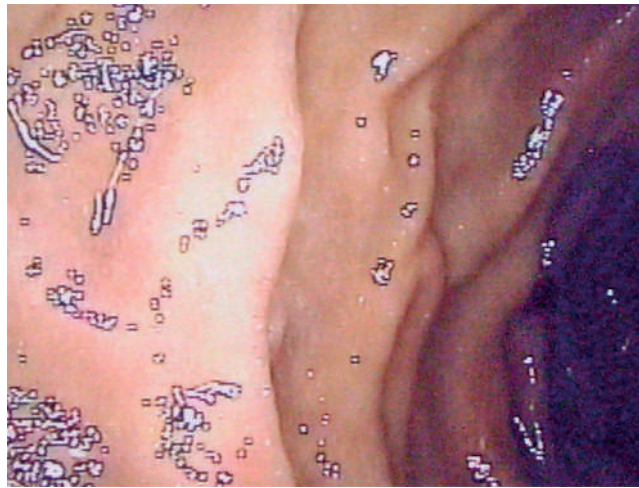
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**Fig. 4** Numerous organisms are seen along the villous surface (arrows), in profile, as crescent on sickle shape (arrow head); hematoxylin and eosin,  $\times 40$ .

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**Fig. 5** Normal duodenal mucosa.

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