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Hypoalbuminemia and nodular duodenal mucosa

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Keywords

Common variable immunodeficiency (cvid); *giardia lamblia*; malabsorption; nodular lymphoid hyperplasia (nlh)

Clinical Image Description

A 26-year-old Egyptian man was admitted to the Emergency Department of the Sandro Pertini Hospital due to acute peripheral oedema associated with weight loss (6 kg in the last 7 months) and chronic diarrhoea. In the anamnesis, no previous episodes of infections (gastrointestinal or respiratory) or hospitalizations were reported. Physical examination of the patient revealed his poor condition. Hypoalbuminemia (2.6 g/dl) and anaemia (haemoglobin 10.5 g/dl) were present. Serological screening for celiac disease was negative. A gastroscopy and a colonoscopy with ileoscopy (Figure 1) with histological examinations were performed. Gastroscopy showed diffuse macroscopic nodular appearance on bulb and duodenum, while ileoscopy revealed the same nodular pattern but less represented. Histopathological examination of the duodenal biopsies displayed nodular lymphoid hyperplasia (NLH) associated with Giardia lamblia infection (Figure 2). This finding was confirmed by parasitic examination of the faeces, which highlighted the presence of Giardia cysts. Otherwise, Helicobacter pylori was not present in gastric biopsies. Crohn's disease was excluded both with the histological examination of the terminal ileum and owing to the negativity of the fecal calprotectin dosage. Further examination showed low levels of quantitative immunoglobulin (IgG 240 mg/dL, IgA 21 mg/dL, and IgM 36 mg/dL), mutation of the gene TNFRSF13B, and immunological consultation. According to all these evidences, a common variable immunodeficiency complicated by Giardia lamblia infection was diagnosed. The patient was treated with bowel rest, intravenous albumin, parenteral nutrition, as well as immunoglobulin replacement and antibiotic therapy (metronidazole).

Discussion

Common variable immunodeficiency (CVID) is a group of disorders with nonspecific clinical mani-

festations, largely relying on the decreased serum immunoglobulin levels [1]. Its epidemiology and its prevalence are very heterogeneous. The last one has been accounted for 40.2% in the USA, 2.6% in the Middle East countries and 1.3% in the Africa [1]. This condition manifests itself in the course of the second/third decade of life, affecting about 1:50.000-1:200.000 individuals in the general population, whose immune system is not able to produce antibodies against bacteria, viruses or other affecting the body [2]. Over 90% of CVID patients are more susceptible to contract bacterial infections, especially those affecting the respiratory and gastrointestinal tract (Giardia lamblia followed by Salmonella and Campylobacter jejuni) [2]. Giardia lamblia infection can generate a nodular mucosal pattern, which may look like a celiac disease or a Crohn disease when observed from an endoscopic point of view [3]. It has been reported that about half of untreated CVID patients suffer from malabsorption, and NLH may also be present [4]. This constitutes a risk factor for the development of intestinal lymphoma and entailing the implementation of endoscopic surveillance protocols [5].

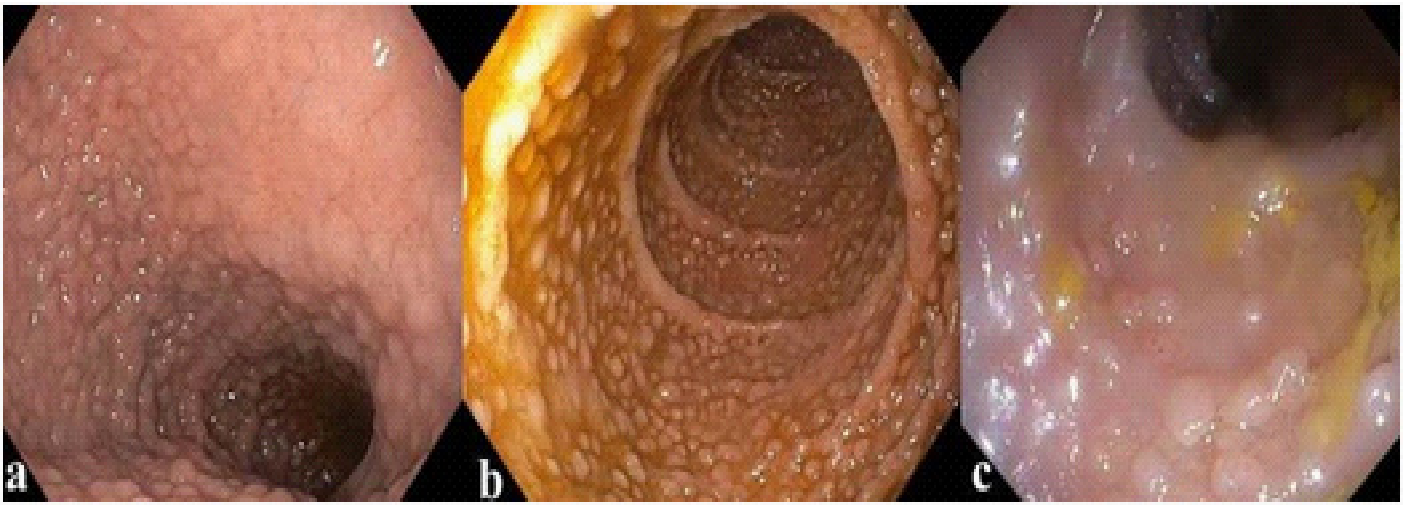

Figure 1: Endoscopy showing the mucosa of : a) bulb; b) dudenum; c) terminal ileum.

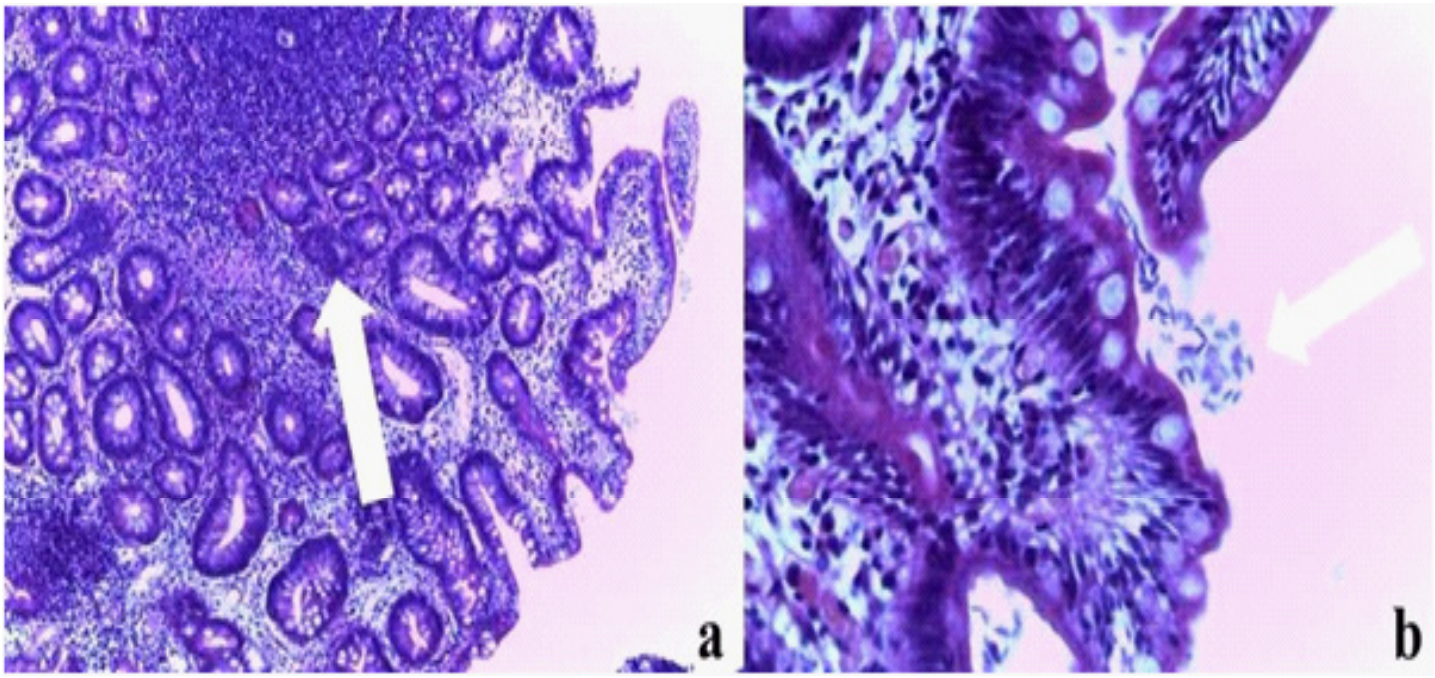

Figure 2: Biopsy of the duodenal mucosa (haematoxylin & eosin 10X) showing: a) increase in lymphoid infiltrate in the lamina propria organized in follicles (white arrow); b) falciform corpuscles (White arrow) compatible with the presence of *Giardia.*