Case Report

Gastritis by Strongyloides Stercoralis

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Abstract

Strongyloides stercoralis is an intestinal parasite that could be found in tropical regions. Usually infects the small intestine. The gastric involvement is a rare phenomenon. The asymptomatic chronic infection can persist for years. In pathological conditions associated with immunosuppression, the reactivation can occur in a disseminated form, associated with gastrointestinal, pulmonary or cutaneous symptoms, and with a high mortality rate.

The authors describe the case of a immunocompromised patient with advanced lung cancer, with involvement of gastric mucosa by Strongyloides stercoralis. Because the clinical symptoms and endoscopic findings are nonspecific, a high level of suspicion is required for diagnosis, highlighting the importance of endoscopic biopsies of any anomaly detected.

INTRODUCTION

Strongyloides stercoralis is an intestinal parasite that could be found in tropical regions. Usually infects the small intestine. The gastric involvement is a rare phenomenon. The asymptomatic chronic infection can persist for years. In pathological conditions associated with immunosuppression, the reactivation can occur in a disseminated form, associated with gastrointestinal, pulmonary or cutaneous symptoms, and with a high mortality rate.

CASE PRESENTATION

A 64-year-old male patient, with medical history of advanced stage lung squamous cell carcinoma, submitted to palliative radiotherapy and chemotherapy (with corticosteroids), was admitted in the hospital with food intolerance, nausea and vomiting over the past three weeks, associated with anorexia and weight loss. He denied abdominal pain, diarrhea or fever. The last cycle of chemotherapy had been performed three weeks before. He had history of residence during two years in Guinea, where carried out military service (at 40 years ago). The physical examination revealed pallor, signs of dehydration, malnutrition, hypotension and decreased vesicular murmur in the top half of the left lung, in relation to previously known lung cancer. The laboratory data demonstrated normocytic normochromic anemia (hemoglobin 10.7 g/dL), leukocytosis (28400 µl), neutrophilia (89.6%), normal eosinophils count, elevated C-reactive protein (8 mg/dL) and decreased serum albumin (13/gL). The upper endoscopy showed diffuse congestive and erythematous gastropathy and bulbopathy, with granular looking mucosa (Figure 1). The gastrihstological study revealed chronic atrophic gastritis and intestinal metaplasia, with lymphoplasmacytic inflammatory infiltrate, with some eosinophils, but without evidence of infection by Helicobacter pylori, and the presence of structures suggestive of Strongyloides stercoralis within the glands and crypts (Figure 2). The parasitological study performed in the gastric biopsies confirmed the positivity for the referred parasite. The stool parasitological study was positive for Strongyloides stercoralis.

By the will of the patient, and the advanced lung cancer, the endoscopic study of the colon and small intestine was not performed. Given the low short-term availability of Ivermectin

Figure 1 The upper endoscopy (A and B images) showed diffuse congestive and erythematous gastropathy, with granular looking mucosa.

In our hospital, we opted for alternative therapy with Albendazole (400 mg per os, id, 3 days), in addition to the therapy with proton pump inhibitors. The patient showed clinical and analytical improvement, with tolerance to the diet and some recovery of the nutritional status.

**DISCUSSION**

The *Strongyloides stercoralis* is an intestinal parasite endemic in tropical regions [1,2]. It usually infects the small intestine [2]. The gastric involvement is a rare phenomenon [2]. The asymptomatic chronic infection can persist for years [3]. In pathological conditions associated with immunosuppression, the reactivation can occur in a disseminated form, associated with gastrointestinal, pulmonary or cutaneous symptoms, and with a high mortality rate [3]. In this case, the infection may have been acquired during the patient’s residence in Guinea, and remained asymptomatic until the current moment of immunosuppression. The human infection begins with the skin penetration of the larvae from the soil, followed by hematogen migration to the lungs, rising up the breathing airways, and swallow of the larvae. The adult forms will be found preferably in the mucosa of the small intestine, with production of eggs excreted in the stools [3-5].

The corticotherapy is the most commonly reported risk factor associated with the reactivation of infection [1].

The diagnosis is made by detecting larvae in the stools. However, a single stool analysis fails in about 70% of the cases in the detection of *Strongyloides* larvae, and multiple stool samples may be required for diagnostic confirmation [3]. It should also be carried out biopsies of the organs suspected of infection [1]. The eosinophilia can be detected in about 75% of the cases, but may be absent in immunocompromised patients, [1,2,3] as noted in this case.

The Ivermectin (50-200 lg/kg as a single dose) is currently the treatment of choice for the infection by *Strongyloides stercoralis* [5]. It is well tolerated, and offers excellent healing rates [5]. The therapeutic alternatives are Thiabendazole, Albendazole and Mebendazole, with variables therapeutic effects [1,2,5].

**REFERENCES**