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Eosinophilic Esophagitis; Case Presentation and Evidence-Based Recommendations for Diagnosis and Treatment

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Abstract

Background: Eosinophilic Esophagitis (EoE), first described in the early '90s, has rapidly evolved as a specific chronic inflammatory esophageal disease. The diagnosis is based clinically on the presence of symptoms related to esophageal dysfunction and histologically by an eosinophil-predominant inflammation once other conditions leading to esophageal eosinophilia are excluded. This male-prevalent disease has an increasing incidence and prevalence in western countries. EoE represents the main cause of dysphagia and bolus impaction in adult patients. Although EoE often occurs in atopic patients, the value of allergic testing is still under discussion.

Case presentation: We present the case of a 54-year-old female patient, a painter by profession, complaining that she has the feeling of dysphagia, food stagnation of the esophagus, a feeling of general discomfort for several years. Two years ago, she consulted a gastroenterologist, and he performed an upper endoscopy. The endoscopy conclusion was gastroesophageal reflux disease. The patient has been receiving proton pump inhibitor (PPI) treatment for several months with minor improvements of symptoms.

We performed a new endoscopy; submucosal infiltrates with evident inflammation and circumferential rings were observed, which endoscopically suggests eosinophilic esophagitis. Several structured biopsy specimens were taken, which were analyzed by the anatomopathological department. The diagnosis of EoE was confirmed

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endoscopically, and histopathologically, the patient started the treatment with local corticosteroids and PPI-s.

Conclusions: EoE is a new chronic pathology of the esophagus. EoE is a pathology to which gastroenterologists and especially endoscopists should begin to direct their diagnostic attention. Most patients with EoE can be treated with topical corticosteroids with good results.

Keywords: eosinophilic esophagitis, clinical manifestation, endoscopy, histopathology, treatment.

INTRODUCTION

Two decades ago, two independent cases were reported in medical journals, one from the USA and another from Switzerland, clinically complaining of dysphagia and histologically compatible with eosinophilic infiltrations. This pathology was identified as different from gastroesophageal reflux disease (GERD) and was therefore termed as primary or idiopathic eosinophilic esophagus (1, 2). A year later, Kelly et al. reported allergic children suffering from GERD-like symptoms, refractory to drug and surgical treatment. These patients had eosinophilic infiltrate of the esophagus and responded well to treatment with a hypo-allergic diet (3). Further studies showed that these two clinical presentations were probably two sides of the same coin, a clinicopathological disease later called eosinophilic esophagitis (EoE) (4, 5). EoE is a recently identified disease with increasing prevalence. EoE stands as a chronic inflammatory disease of the esophagus initiated by food and environmental allergens. Patients with EoE experience problems, such as difficulty in swallowing, vomiting, and pain, potentially resulting in poor eating and growth among infants and toddlers. EoE is a recently identified and recognized disease with increasing prevalence. In children and adults with EoE, solid food can get attached and stuck in a narrowing esophagus, increasing the risk of emergency in-room visits removing trapped food. Treatment concentrates on helping both symptoms and esophageal inflammation while supporting people to maintain their quality of life. Although, understanding more in-depth the natural history of EoE in both children and adults requires informed clinical decisions concerning the optimal use of disease monitoring and long-term maintenance therapy. Clinical guidelines for the management of eosinophilic esophagitis show the official recommendations and suggestions of the American Gastroenterological Association (AGA) and the Joint Task Force on Allergy-Immunology Practice Parameters (JTF) on managing eosinophilic esophagitis. These recommendations will guide allergists and gastroenterologists in effectively managing their patients' EoE and improving their quality of life (6).

CASE PRESENTATION

We present a 54-year-old female patient, painter by profession, who complains having the feeling of dysphagia, food stagnation of the esophagus, a sense of general discomfort for several years. Two years ago, she consulted a gastroenterologist, and he performed an upper endoscopy. The endoscopy conclusion was GERD. The patient has been receiving PPI treatment for several months. The patient reports that a few days after starting the treatment, there was a slight improvement in symptoms. But symptoms returned to her from time to time. She resumed PPI treatment with recurrence of symptoms and received PPI "on-demand."

In the detailed medical history, it turns out that the patient has had an increase in symptoms in

periods when there has been more artistic activity. Years ago, she was diagnosed with atopic dermatitis. The patient justifies this association of situations with the emotions and stress of the painter's work. The patient insists on performing a new endoscopy because she has weight loss and suspects a malignant esophagus pathology.

The patient was depressed but in good general condition. Her abdomen was soft to touch and without pain. There were no alterations in other physical examinations. All biochemical and hematological parameters were within normal limits, except an allergen-specific immunoglobulin E (IgE) test found in elevated levels in peripheral blood. Her chest, esophageal, stomach, duodenal x-rays, and electrocardiograms were normal. No abnormalities were found with abdominal and gynecological ultrasound or a CT scan. We performed a new endoscopy; submucosal infiltrates with evident inflammation and circumferential rings were observed in the esophagus, which endoscopically suggests eosinophilic esophagitis (Figure 1).

Several structured biopsy specimens were taken, which were analyzed by the anatomopathological. Histopathology shows eosinophils (Figure 2).

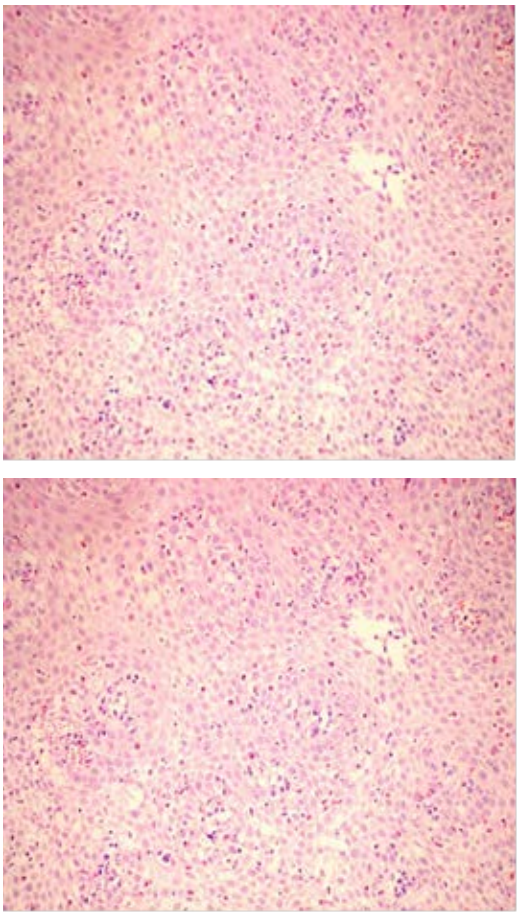

Figure 2. Histologic view of eosinophilic esophagitis. *Patient M.B, 54 years old. H-E coloration, x20 magnification. The photo shows squamous non-keratinized epithelium, with edema and distinct eosinophilic exocytosis in the epithelium (more than 15 eosinophils per high-power microscopy field).*

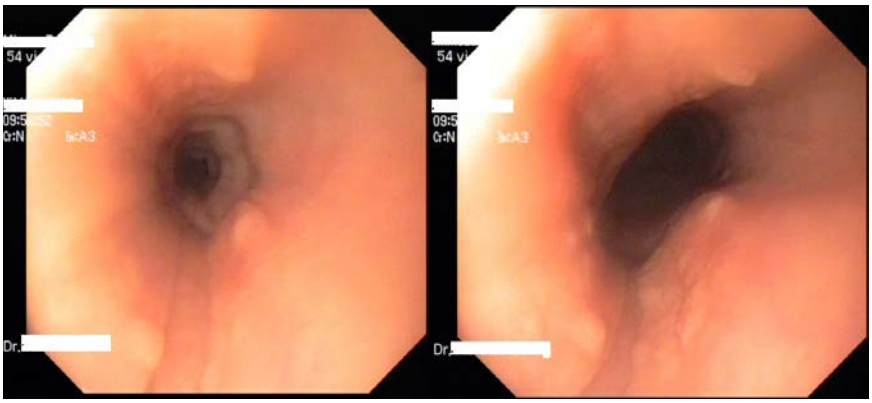

Figure 1. Endoscopic view of eosinophilic esophagitis.

The diagnosis of EoE was confirmed endoscopically, and histopathologically, the patient was prescribed the treatment with local corticosteroids. The patient was re-examined endoscopically and histologically abroad two months later, and the EoE diagnosis was reconfirmed. The patient is still treated with topical corticosteroids at minimal doses. Clinically, the patient's condition is perfect.

DISCUSSION

EoE can affect any individual, at any age (7), with predominance in males (1, 2, 4, 5). Initially, EoE was considered rarer than an actual disease (4, 5). Gastroenterologists have noticed a significant increase in the number of new cases diagnosed with EoE, from 0.35 to 9.45 per 100,000 person-years, with a prevalence of 55.0 per 100,000 persons (7,8). These observations have extended the question of whether EoE is a growing pathology affecting more and more individuals, or the diagnosis of EoE is more frequent because the awareness of health care providers has increased?

The results of a long-term study have clarified this dilemma. It shows that the increase in the incidence of EoE represents an actual increase in incidence and not simply a greater awareness of physicians about this pathology (9).

In our case, the patient was depressed but in good general condition. Her abdomen was soft to touch and without pain. In other physical examinations were no alterations.

All biochemical and hematological parameters were within normal limits, except an allergen-specific immunoglobulin E (IgE) test found elevated levels in peripheral blood. Her chest, esophageal, stomach, duodenal x-rays, and electrocardiograms were normal. No abnormalities were found with abdominal and gynecological ultrasound or a CT scan.

Clinical manifestations of EoE

Clinical manifestations of EoE are age-related (9). Young children usually refuse food and may present dysphagia (10), which is not easy to identify in these age groups. Slightly older children may experience symptoms similar to GERD, such as heartburn, reflux, vomiting, and abdominal pain. EoE in adults manifests itself with few symptoms such as dysphagia for solid foods (29-100%) and the feeling of food stagnation in the esophagus (25-100%) (11). Few patients present with GERD-like symptoms, epigastric and retrosternal pain. EoE should be suspected in young children with GERD-like symptoms and eating problems, while in adult children and adults with a history of dysphagia for solid foods, the feeling of food stagnation in the esophagus, and retrosternal pain. Standard physical and laboratory examination is usually regular (4.5), except for mild peripheral eosinophilia and elevated IgE values (4.5).

Upper endoscopy is the first diagnostic step in evaluating patients with dysphagia (12). There is no endoscopic pathognomonic sign for EoE. Still, several endoscopic signs should be considered,

such as active inflammation with mucosal edema (with exudates, in the form of streaks, etc.), or chronic inflammation with mucosal modification (mucosa with the appearance of crepes, esophageal rings, such as the trachea, stricture) (4). If these signs are present, they are EoE-oriented, and biopsies should be taken (4,5).

Histopathological findings in EoE

In a healthy esophagus, eosinophils are absent. In contrast, infiltration of the esophageal epithelium with eosinophils indicates EoE, and the amount of these eosinophils, more than 15 eosinophils observed per field, is the main component in the diagnosis of this pathology. EoE is a chronic disease of the esophagus, with immune mediators, clinically characterized by symptoms associated with esophageal dysfunction and histologically by inflammation with a predominance of eosinophils (5).

Treatment strategies

For the past 20 years, one of the main goals of EoE research has been to study, discover and formulate an effective strategy for dealing with EoE. This is known as the 3D strategy (drugs, diet, dilatation) (4.5).

According to current AGA guidelines, topical steroids are recommended as a first-line treatment for EoE. The guideline also recommends PPI, diet, and esophageal dilation as treatment options. The benefit of novel targeted biologic therapies for EoE is being actively evaluated, and more research is needed before these can be recommended (6).

CONCLUSIONS

EoE is a new chronic pathology of the esophagus. EoE is a pathology to which gastroenterologists and especially endoscopists should begin to direct diagnostic attention. The prevalence of EoE seems to occupy an important place in most gastrointestinal pathologies. Recent years have seen significant developments in the diagnosis of EoE, and treatment indications have become more specific. Most patients with EoE can be treated with topical corticosteroids with good results.

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Conflict of Interest Statement: The authors declare that they have no conflict of interest.

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