Eosinophilic Esophagitis (EoE) Following Bioenteric Intragastric Balloon (BIB) Insertion

M. N. Alkady[1], S. Elkholy[2]

(1) Tropical Department, Faculty of Medicine, Cairo University, Cairo, Egypt ; (2) Internal Medicine Department, Faculty of Medicine, Cairo University, Cairo, Egypt.

To the editor,

A 24 years old female obese patient with BMI 38kg/m^2, presented for weight control through endoscopic bioenteric intra gastric balloon (BIB) insertion. She had irrelevant past medical history with no history of atopy. Following the insertion of BIB, she experienced epigastric pain and vomiting for the first couple of weeks. After 6 months of BIB insertion she started to develop progressive dysphagia of 2 months duration. Upper endoscopy was done with the decision to remove the balloon; it showed multiple mucosal ridges, furrows and corrugations with whitish exudate over it in the distal two thirds of the esophagus as shown in figure (1). Multiple biopsies were taken showing stratified squamous esophageal mucosa with marked basal cell hyperplasia and wide exudation of eosinophils (>15/HPF), together with few mononuclear cells and polymorphs with no neoplasia or dysplasia. After diagnosing the patient with eosinophilic esophagitis, inhaled corticosteroids in the form of fluticasone was prescribed to her together with the high dose of proton pump inhibitors (PPI) that she was already taking due to reflux symptoms following BIB insertion. After removal of the BIB her symptoms were markedly improved and the symptoms did not recur.

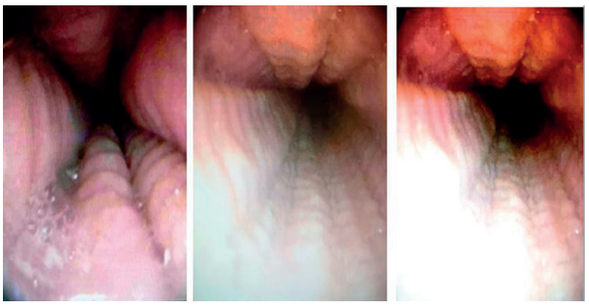

Fig. 1.

Discussion

Eosinophilic esophagitis (EoE) is a is a clinicopathological disorder characterized by eosinophilic infiltration of the esophageal mucosa. Estimated incidence and prevalence of EoE to be about 7/100000 and 43/100000 respectively with male to female ratio of 3:1 and about 58% of the patients had a history of atopy (1). Criteria for the diagnosis of EoE stated by the American college of gastroenterology (ACG) includes (2) : symptoms related to esophageal dysfunction, eosinophil-predominant inflammation on biopsy ≥15 eosinophils per high-power field (eos/hpf) and persists after a PPI trial. This typical picture was seen in our patient in which she developed dysphagia and vomiting with esophageal eosinophilia >15/HPF. A cutoff value of at least 15 eosinophils/HPF has a sensitivity of 100% and specificity of 96% for establishing the histologic diagnosis of eosinophilic esophagitis (3). As shown in figure 1, the patient had the classic picture of trachealization of the esophagus. Many allergens had been proposed; the most famous is food allergy based on the fact that patients' symptoms can improve on elemental diet, however other pathogens like acid reflux, bacteria, fungi...etc had also been proposed (4). The relationship between EoE and GERD (gastro-esophageal reflux disease) had evolved over the past few years. Before 2011, they were both two separate entities and only the patients unresponsive to PPI therapy or alternatively with a normal esophageal pH monitoring could be diagnosed of EoE (5). In 2011 new potential disease phenotype, termed PPI-responsive esophageal eosinophilia (PPI-REE) was acknowledged as one of the major additions. By the year 2013, the ACG had identified 3 different entities; the first is EoE which is non-PPI responsive-persistent eosinophilia, the second is non-GERD, PPI-REE and the third one is GERD with eosinophilia (2). ACG included a trial of PPI for 8 weeks and re-endoscopy and biopsy in differentiating between the three types.

In 2017, the united European gastroenterology (ueg) published the most recent guidelines for EoE. The main novelty in these guidelines is the retraction of the term PPI-REE and the consideration of PPI as a therapeutic agent (6). Regarding our patient, we believe that it's the

Correspondence to : Shaimaa Elkholy, 531, 3rd division, 5th district, 6 of October city, Cairo, Egypt.
E-mail : shaimaa.elkholy@cu.edu.eg, shuma50082@gmail.com, shuma50082@kasralainy.edu.eg

Submission date : 27/09/2017
Acceptance date : 01/06/2018

BIB that caused her symptoms, this is because the patient was already on high dose PPI. Besides after removal of her BIB the symptoms did not recur after the initial course of treatment, in spite of the high relapse rate of EoE.

Disclosures : The authors whose names are listed certify that they have NO conflict of interest with any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this manuscript.

References

1. SPERGEL JM., BOOK WM., MAYS E., SONG L., SHAH SS., TALLEY NJ., BONIS PA. Variation in prevalence, diagnostic criteria, and initial management options for eosinophilic gastrointestinal diseases in the United States. *J. Pediatr. Gastroenterol. Nutr.*, 2011, 52 : 300-306.
2. DELLON ES., GONSALVES N., HIRANO I., FURUTA G.T., LIACOURAS C.A., KATZKA D.A. ACG Clinical Guideline: Evidenced Based Approach to the Diagnosis and Management of Esophageal Eosinophilia and Eosinophilic Esophagitis (EoE). *The American Journal of Gastroenterology*., 2013, 108 : 679-692.
3. DELLON ES., SPECK O., WOODWARD K., COVEY S., RUSIN S., SHAHEEN NJ., WOOSLEY JT. Distribution and variability of esophageal eosinophilia in patients undergoing upper endoscopy. *Mod. Pathol*., 2015, 28 : 383-390.
4. NOEL RJ., PUTNAM PE., ROTHENBERG ME. Eosinophilic esophagitis. *N. Engl. J. Med*., 2004, 351 : 940-941.
5. FURUTA GT., LIACOURAS CA., COLLINS MH., GUPTA S.K., JUSTINICH C., PUTNAM P.E. *et al*. Eosinophilic esophagitis in children and adults : a systematic review and consensus recommendations for diagnosis and treatment. *Gastroenterology*., 2007, 133 : 1342-1363.
6. LUCENDO AJ., MOLINA-INFANTE J., ARIAS Á., VON ARNIM U, BREDENOORD AJ., BUSSMANN C. *et al*. Guidelines on eosinophilic esophagitis: evidence-based statements and recommendations for diagnosis and management in children and adults. *United European Gastroenterol. J.*, 2017, 5 : 335-358.