Ibrahim Card Med J 2024; 14 (2): 60-63

Eosinophilic Esophagitis in a 15-Year-Old Teenage Bangladeshi Girl: A Case Report

Miah Wahiduzzaman[1], AKM Shamsul Kabir[2], Md. Shahriar Hossain[3], Abida Yasmin[4]

ABSTRACT

Eosinophilic Esophagitis (EoE) is an increasing cause of upper gastrointestinal morbidity, traditionally reported to be more prevalent in males and atopic populations. Data regarding EoE presentation in adolescent girls from Bangladesh is scarce. We report the case of a 15-year-old Bangladeshi girl who presented with a one-year history of persistent mild daily heartburn, dyspepsia, intermittent solid food dysphagia, and associated weight loss (4.7 kg). Initial upper endoscopic examination and manometric findings were unremarkable. The diagnosis of EoE was definitively confirmed by the histologic examination of biopsy specimens taken from the lower and mid esophagus, which demonstrated marked eosinophilic infiltration consistent with the disease. Treatment commenced with a combination of topical steroids (Fluticasone Propionate + Formoterol Fumarate) and elimination of known allergic diets, resulting in significant improvement in appetite and resolution of dysphagia. This case emphasizes the need for high clinical suspicion among gastroenterologists for EoE in adolescent girls with persistent, non-specific symptoms such as heartburn and dysphagia, and underscores the necessity of performing multiple endoscopic biopsies from both proximal and distal segments to secure a conclusive diagnosis, even in the absence of visual endoscopic abnormalities.

CASE REPORT

INTRODUCTION:

Eosinophilic esophagitis (EoE) is acknowledged as a common cause of upper gastrointestinal (GI) morbidity in both children and adults.[1] It is estimated to affect 0.5–1 in 1,000 people, but it's detected in 2.4–6.6% of patients undergoing endoscopy. The incidence of EoE is about 1 in 10,000 new cases each year, and its prevalence has nearly doubled in both children and adults over the past 20 years. Traditionally, EoE has been considered predominately to affect males, children, and young adults. Cases occurring in older age groups are rare. It occurs more often in atopic individuals and is characterized by eosinophilic infiltration of the esophageal mucosa.[2]

Although data resources are limited, it is well established from observations in prospective and retrospective cohort studies that EoE is a chronic disease that in many cases, especially in adults, can be symptomatic for several years or decades prior to diagnosis. Time from symptom onset and diagnosis may range from 1.2-3.5 years in children and from 3.0-8.0 years in adults.[3] It is also believed that many patients progress from an inflammatory to a fibrotic process over time, which might explain the differences in clinical presentation in children versus

Authors' information:

[1] ***Dr. Miah Wahiduzzaman,*** *MBBS, FCPS (Medicine), MRCP (UK), FRCP (Glasgow, UK), Associate Professor, Medicine, Holy Family Red Crescent Medical College Hospital, Dhaka, Bangladesh*

[2] ***Professor Dr. AKM Shamsul Kabir****, MBBS, FCPS(Medicine), MD(Gastroenterology), Holy Family Red Crescent Medical College Hospital, Dhaka, Bangladesh*

[3] ***Dr. Md. Shahriar Hossain****, MBBS, Holy Family Red Crescent Medical College Hospital, Dhaka, Bangladesh*

[4] ***Dr. Abida Yasmin****, MBBS, Intern Doctor, Sher E Bangla Medical College Hospital, Barishal, Bangladesh*

Correspondence: ***Dr. Miah Wahiduzzaman,*** *Mobile: +8801682728964, E-mail: miahwahiduzzaman@yahoo.com*

adults with EoE. The objective of this case presentation was to document the disease process of EoE from symptom onset to diagnosis in a young girl in Bangladesh, which, to our knowledge, has not been reported before in Bangladesh.

Case Report

A 15-year-old Bangladeshi teenage girl presented with complaints of persistent daily mild heartburn and dyspepsia for the last one year.

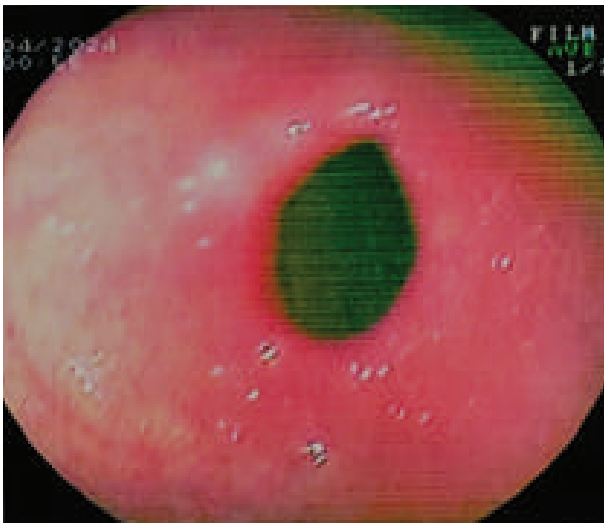

Figure 1: Endoscopy

Further inquiry into the disease revealed that she experienced mild intermittent solid food dysphagia with gradual weight loss of 4.7 kg. She did not have any other gastrointestinal symptoms of clinical significance. Her body mass index (BMI) was 19.1 kg/m2. Other physical examination findings were clinically insignificant. Hematological and biochemical parameters were within normal ranges (Table I). The upper endoscopic examination findings showed no abnormality (Figures 1, 2, 3); however, histologic examination of biopsy specimens obtained from the lower (35-37 cm) and mid (28-30 cm) esophagus (three samples per segment) demonstrated eosinophilic infiltration in esophageal mucosa.

MANOMETRY:

Manometric findings revealed that basal lower esophageal sphincter (LES) pressure was normal. All 5ml wet swallows were peristaltic with distal contractile integral (DCI)>450 with synchronous relaxation. Median integrated relaxation pressure (IRP) was normal.

Histologic Findings of Endoscopic Biopsy Materials:

Gross Description: Specimen consists of multiple tiny fragmented grayish-white pieces of soft tissue, measuring 0.5x0.5x0.1cm in a box containing formalin.

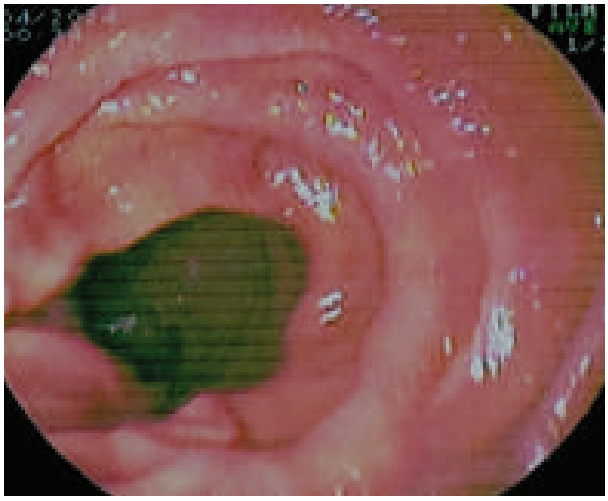

Figure 2: Endoscopy

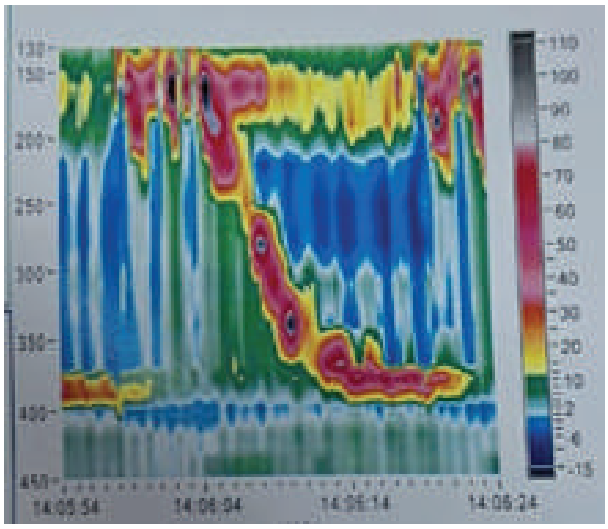

Figure 3: Endoscopy

Microscopic Description: Sections showed pieces of superficial esophageal mucosae having thickened squamous epithelium, infiltrated with acute and chronic inflammatory cells including eosinophils. No granuloma or evidences of malignancy was seen.

Diagnosis: Endoscopic biopsy materials of soft tissue, from lower- and mid- part of esophagus, were consistent with eosinophilic esophagitis.

CASE REPORT

Treatment and Response: The treatment was started with Fluticasone Propionate + Formoterol Fumarate (250 mcg/10 mcg) along with avoidance of known allergic diets. Hydrofluoroalkane (HFA) inhaler can also be used. Following treatment her appetite improved and dysphagia subsided significantly.

DISCUSSION

Eosinophilic Esophagitis (EoE), characterized by dysphagia, is known as a clinicopathologic condition related to food allergy, concerning endoscopic observations. The condition responds well to treatment with topical steroids, PPIs (proton pump inhibitors), or elimination of known allergic diets.[1] The clinicopathologic approach recognizes that no single clinical attribute or endoscopic appearance of EoE is pathognomonic. Rather, the clinically diagnosed EoE can only be confirmed if the patient's endoscopy-guided esophageal biopsy reveals eosinophilic infiltration.[4] Several studies consistently show that the condition is more prevalent in adults compared to children.[4,5] The predominant clinical complaint in the present case was frequent heartburn accompanied by intermittent dysphagia, chest pain, weight loss decreased sleep, vomiting and nausea. Dysphagia and heartburn are also commonly seen in patients with GERD especially if complicated with stricture.[6] In evaluating complaints of weight loss and dysphagia, manometry was performed, and an upper Gastrointestinal Tract (GIT) endoscopy was conducted to assess dysphagia and heartburn.

Table I. Serological investigation findings

Test Items	Test Value	Reference Value
Hb (g/dL)	11.80	12-15.00
WBC	8.44	4-10.00
Neutrophils	5.06	2-7.00
Lymphocyte	2.70	1-3.00
Monocyte	0.42	0.02-0.50
Eosinophil	0.25	0.02-0.50
MPV (fl)	14.20	8-11.00
ESR (mm/hr)	19	0-12
Cortisol (ug/dL)	14.50	4.46-22.70
FT4 (ng/dL)	1.11	0.77-2.08
TSH (uIU/mL)	3.82	0.70-5.70

Figure 4: Endoscopy

In this case, endoscopic findings were normal. Despite this, the patient continues exhibit allergic rhinitis and food allergy (milk) with continuous weight loss. So, we decided to go for biopsy to confirm the diagnosis. Finally, the diagnosis was confirmed by multiple biopsies. (Figure 4)

CONCLUSION:

The present case study suggests that EoE may occur in adolescent girls. Gastroenterologists should be vigilant for this esophageal disorder in any young child with dysphagia or other symptoms suggestive of EoE. Biopsies should be taken from the proximal and distal esophagus to achieve a conclusive diagnosis. Although steroid is generally prescribed as a treatment of choice, it should be avoided initially to prevent any unwanted psychological impact of dietary therapy. Maintenance therapy of topical corticosteroids or dietary restrictions should be considered for all patients to prevent symptom recurrence.

REFERENCES

1. Attwood SE, Smyrk TC, Demeester TR, Jones JB. Esophageal eosinophilia with dysphagia. A distinct clinicopathologic syndrome. *Dig Dis Sci* 1993;38(1): 109-116. doi: 10.1007/BF01296781.

2. Davidson Principals & Practice of Medicine; 23rd edition, Page :794

CASE REPORT

3. Shaheen NJ, Mukkada V, Eichinger CS, Schofield H, Todorova L, Falk GW. Natural history of eosinophilic esophagitis: a systematic review of epidemiology and disease course. *Dis Esophagus* 2018;31(8):doy015. doi: 10.1093/dote/doy015.

4. Dhar A, Haboubi HN, Attwood SE, Auth MKH, Dunn JM, Sweis R, et al. British Society of Gastroenterology (BSG) & British Society of Paediatric Gastroenterology, Hepatology and Nutrition (BSPGHAN) joint consensus guidelines on the diagnosis and management of eosinophilic oesophagitis in children and adults. *Gut* 2022;71(8):1459-1487.doi:10.1136/gutjnl-2022-327326.

5. Mona R, Hruz P. Epidemiology of Eosinophilic Esophagitis: Really a Novel and Evolving Disease? *Inflamm Intest Dis* 2025;10(1):34-40. doi: 10.1159/000543022.

6. Desai JP, Moustarah F. Esophageal Stricture. 2023 May 22. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan. PMID: 31194366