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Eosinophilic Esophagitis: An Increasingly Recognized Disease in Recent Era

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Abstract:

Eosinophilic esophagitis (EoE) is characterized by eosinophilic infiltration of the esophagus. It has become increasingly recognized over the last decade. It is associated with a variety of esophageal symptoms such as dysphagia, food impaction and chest pain. Diagnosis of the disorder is dependent on the patient's clinical presentation and histological findings on esophageal mucosal biopsies. Eosinophilic esophagitis (EoE) is being recognized increasingly all over the globe; however Bangladeshi data on eosinophilic esophagitis is sparse and no case report has so far been made. In our this case report a 14-year-old boy presenting with dysphagia for last few years with weight loss was diagnosed as eosinophilic esophagitis after biopsy from esophageal stricture and ulceration. He was managed initially with enodoscopic dilatation followed by steroids & improved clinically.

Key Words: *Eosinophilic Esophagitis; Dysphagia; Enodoscopic dilatation.*

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Introduction:

The esophagus is normally devoid of eosinophil, and therefore the finding of eosinophil in the esophagus indicates pathology.[1,2] There are many disorders accompanied by eosinophilic infiltration in the esophagus, such as eosinophilic esophagitis (EE), eosinophilic gastroenteritis, gastroesophageal reflux disease (GERD), recurrent vomiting, parasitic and fungal infections, inflammatory bowel disorders (IBD), hypereosinophilic syndrome, esophageal leiomyomatosis, myeloproliferative disorders, carcinomatosis, allergic vasculitis, scleroderma and drug injury.[1,3] EE is a rare disorder characterized by clinical dysphagia and food impaction.[4] It is generally diagnosed in children, rarely occurred in adults. However, recently EE is rapidly increasing in adults.[5] EE is characterized as a dense eosinophilic infiltration in the esophageal mucosa with symptoms of dysphagia, chest pain, epigastric pain and food bolus impaction in adults, while failure to thrive and vomiting is more common in children.[1] Any eosinophil in the esophagus is pathological since eosinophils are absent in healthy individuals. EE is defined as a pathologic disorder characterized by > 15 eosinophils per high power field (HPF) in one or more esophageal biopsy specimens and the absence of pathologic gastrointestinal reflux disease confirmed by a normal pH monitoring study or lack of response to acid-suppression therapy.[2] Eosinophils that infiltrate the esophagus contribute to tissue damage and chronic inflammation. The prevalence of eosinopohillic oesophagitis in USA is 57/100000,[11] Australia 49/100000,[12] Spain 43/100000,[13] Switzerland 45/100000.[14] A cross sectional study done in north India showed prevalence of 3.6% among GERD patients.[15] But no such data is available from Bangladesh so far.

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Case summary:

A 14-year-old boy was admitted with the complains of dysphagia for 1 month prior to admission on 15th March 2018. The dysphagia was to solid food from the beginning & was associated with regurgitation. Initially it was intermittent dysphagia to solid food, later on he had persistent dysphagia to both solid & liquid foods. He lost approximately 10 kg within this period of time. He did not have any pain while swallowing, neither had he any chest pain, heart burn nor abdominal pain. He didn't have any fever, history of any food/drug/dust allergy, asthma, atopy, loose motion, corrosive ingestion, radiation exposure, any drug ingestion that might cause esophageal injury. On examination he was found to be cachectic, vitals were stable. Systemic examination revealed no abnormality. On investigation, his complete blood count revealed high total count of white blood cell 14000/cumm with high eosinophil count (270 eosinophils/cumm of blood). Differential count of eosinophils was 07%. Total Heamoglobin level was 9.10 gm/dl with microcytic hypochromic blood picture. Total Ig E was 466.30 IU/ml (normal <200IU/ml). Upper GI endoscopy revealed residual fluid & small amount of food residue within the esophagus. There was circumferential ulcer with mucosal irregularity & surrounding erythema & oedema causing narrowing of the esophagus at 30 cm from incisor teeth (Figure 1). Scope could not be passed beyond.

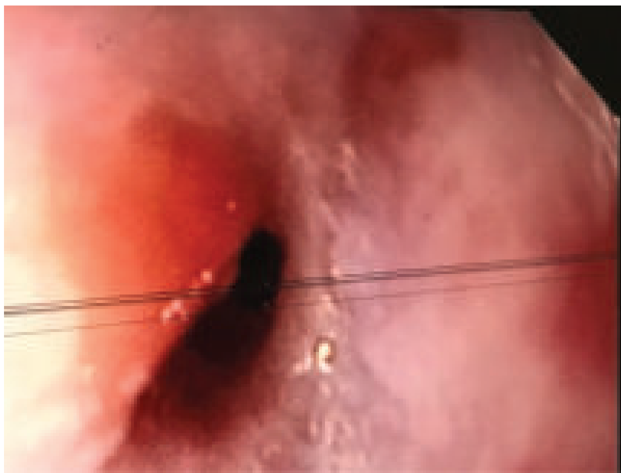

Figure 1: *Endoscopic picture shows oesophageal stricture*

Biopsy was taken from the strictured oesophageal mucosa & also from normal looking proximal oesophagus (05 cm distal to upper oesophageal sphincter) showed lamina propria was infiltrated with 25-30/HPF eosinophils along with acute & chronic inflammatory cells. The squamous epithelium was also invaded with moderate numbers of polymorphs including eosinophils. Histopathological findings were consistent with eosinophilic oesophagitis (Figure 2). He was undergone oesophageal stricture dilatation by Savary Gilliard method & then was put on Beclomethasone inhaler which was prescribed to swallow rather than to inhale. He was also prescribed PPI with tablet montelukast 10mg as well. Dietary advice was also given to avoid egg, milk & sea food.

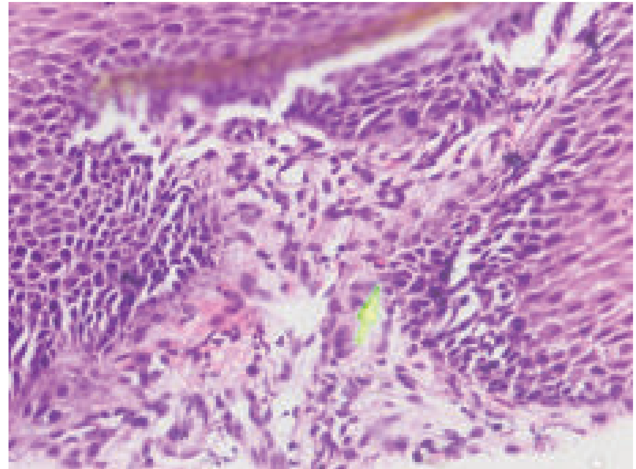

Figure 2: Microscopic view of presence of eosinophil in the oesophageal mucosa

Discussion:

EE was first reported in 1978 by Landres et al. However, in 1993 Attwood et al recognized EE as a distinct clinical condition.[8] EE is more common in the pediatric population but it is increasingly rising in the adult population in the last decade. Normally there is no eosinophil in the esophagus, therefore their presence indicates pathology. The clinical features in children are broader and can be related to the possibility of children inability to express their symptoms. Children experience nausea, vomiting, poor feeding and regurgitation, while dysphagia (most predominant symptom), food impaction and strictures are more common in the adult population. This can be due to the long-standing inflammation and possible scarring that has gone undetected. Some patients with EE are asymptomatic and suspicion of the disease is based upon incidental findings at endoscopy that is performed for other indications. As a result, diagnosis for EE has been delayed in the past.[9]

Endoscopic findings can help identify patients with EE but it is not a diagnostic tool. Endoscopic features of EE include linear furrowing, concentric rings, whitish vesicles scattered over the mucosal surface and exudates, Schatzki ring, small-calibre esophagus, linear superficial mucosal tears, oesophageal ulcers & strictures that occur after introduction of the endoscope.[15] Endoscopic mucosal biopsy remains

the most important diagnostic test for EE. Two or more biopsies are recommended regardless of the gross appearance of the mucosa, and specimens should be obtained from both the proximal and distal esophagus as well as areas showing endoscopic abnormalities in order to obtain high sensitivity for the detection of EE.[16] As mentioned earlier, diagnosis of EE is characterized by the presence of esophageal such as food impaction, regurgitation, or dysphagia; eosinophilic infiltration of at least 15 eosinophils or more per HPF in the esophageal biopsies of patients. In our patients it was 20-25/HPF.

The patient was diagnosed in our hospital on the basis of clinical features & histopathology specimen from biopsied samples obtained from esophagus. After being diagnosed he was given steroids Injection Hydrocortisone 100 mg IV as he was unable to tolerate oral feeding & regurgitated every he ingested. 2/3 days following the injection his condition was improved, he could tolerate oral feeding in the form of semisolid food. Proton pump inhibitors were given as a co therapy. Despite giving steroids his condition not fully albeit partially improved. So our plan was to dilate the esophagus of the patient which improved his symptoms.

To our knowledge so far this is the first ever reported case from Bangladesh. As eosinophillic esophagitis is an uncommon disease, high index of suspicion is needed for diagnosis, as it is a potentially treatable disease if diagnosed early.

Conclusion:

Eosinophilic esophagitis is a disease which is increasingly being recognized in modern era. It should be suspected in patients who present with intermittent solid food dysphagia. It should also be suspected when someone with symptoms of GERD do not respond to PPI. Early diagnosis & treatment can overcome patient sufferings and complications like esophageal stricture. So high degree of suspicion is needed to diagnose the disease to manage the disease properly.

Conflict of Interest: None

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