

# Perforated before Biopsy: A Case of Eosinophilic Esophagitis Complicated by Esophageal Perforation

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**Abstract** Dysphagia occurs when there is a disruption in the swallowing mechanism. Patients with esophageal dysphagia often report a sensation of feeling food boluses getting 'lodged' or 'stuck' during meals. In a young patient with recurrent dysphagia to solid food a mechanical etiology of dysphagia such as Eosinophilic esophagitis must be entertained. This is especially the case if patient has history of other atopic conditions such as asthma or atopic dermatitis. **Conclusion:** There is need for physicians to be aware of unusual etiologies of esophageal dysphagia such as eosinophilic esophagitis given the availability of treatment options which may reduce disease complication rates.

**Keywords:** eosinophilic esophagitis, recurrent dysphagia, food impaction

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## 1. Introduction

Eosinophilic Esophagitis (EE) is a disorder characterized by local immune-mediated esophageal disease with associated esophageal dysfunction. [1] The prevalence is 40 to 90 cases per 100,000 persons in the United States.

Symptoms of EE include dysphagia, heartburn, chest pain and food impaction [1]. EE is more common in Caucasians and with a male: female ratio of 3:1 [2]. Esophageal rupture is a rare complication of EE. This case presents a patient with Eosinophilic Esophagitis complicated by an esophageal rupture.

## 2. Case Presentation

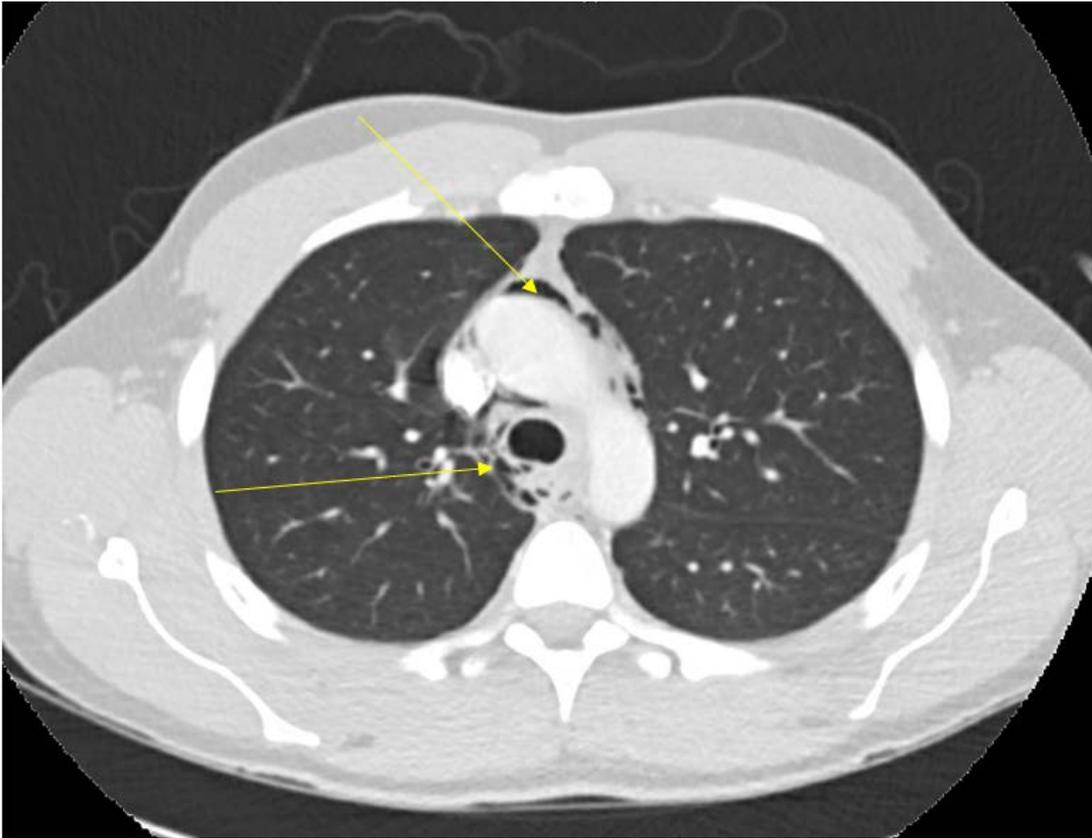
A 32-year-old man with a history of recurrent dysphagia presented to an outside facility for evaluation of chest discomfort and food impaction. The patient reported that while having dinner he experienced difficulty swallowing, which was followed by a bolus of food lodged in his throat. He denied any regurgitation, nausea, vomiting, or abdominal pain. Of note, this is his third episode of dysphagia and impaction requiring hospitalization. He has had two EGD done 5 years ago for the removal of food boluses.

In the ED vital signs and physical examination were unremarkable. He received glucagon, nitroglycerin, and

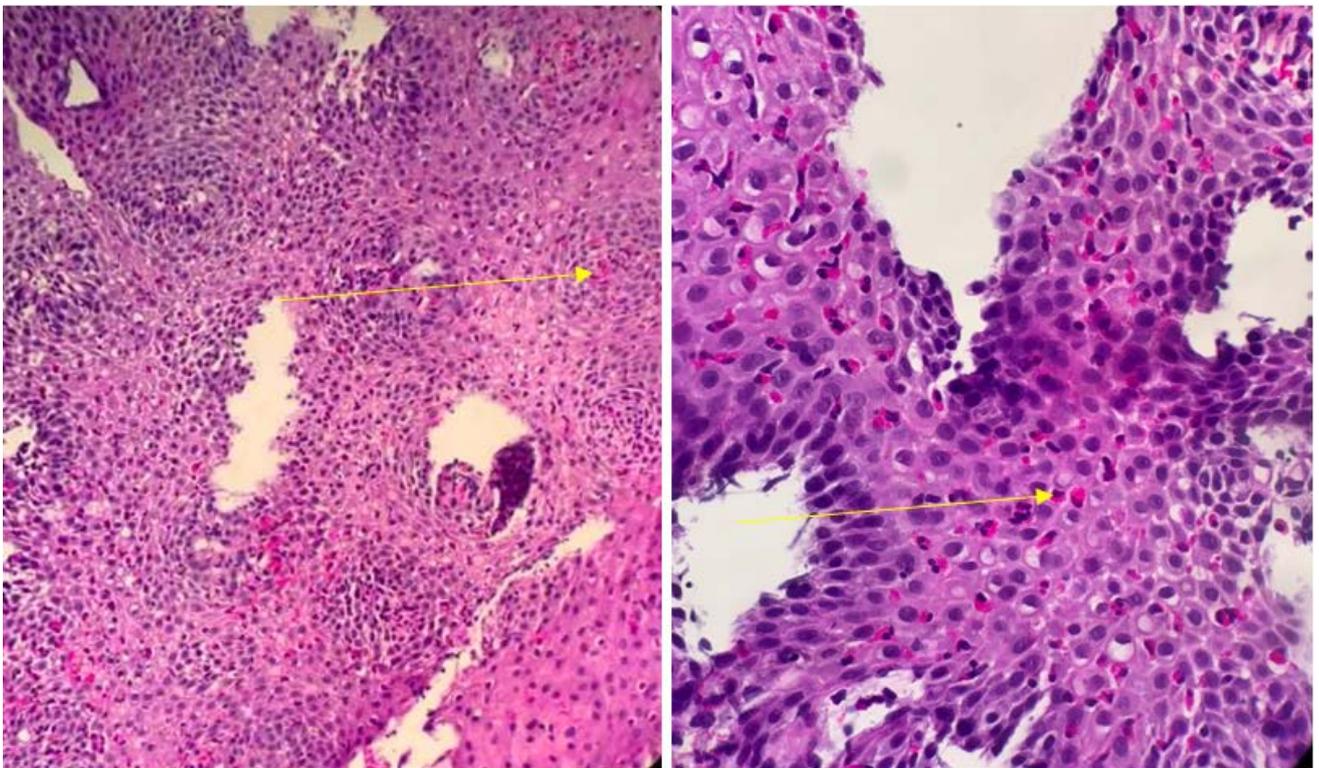
metoclopramide without any significant improvement in his symptoms. He had an urgent upper endoscopy done which showed impacted food bolus about 25-30 cm from the upper incisors. The esophageal lumen was described as being narrow with 'feline-like' appearance and transverse bands. The mucosa was erythematous, friable, and ulcerated. Multiple attempts were made to alleviate the obstruction before eventually the bolus was disintegrated into small pieces and washed distally. Due to significant esophageal ulceration and narrowing the scope was not advanced beyond mid-esophagus. Unfortunately, no biopsies were obtained at that time. Due to concerns of perforation, a CT chest was done immediately after the procedure. CT scan findings are shown below.

The patient was kept NPO and started on broad-spectrum antibiotics and proton pump inhibitor. He was subsequently transferred to our hospital for higher level of care. Differential diagnosis included eosinophilic esophagitis, infectious esophagitis, and erosive esophagitis.

At our hospital, the patient was seen by the cardiothoracic surgeons and gastroenterologists. He had repeat imaging done which showed stable findings as described above. He had multiple gastrografin esophagram studies which showed persistent contrast leakage. Ultimately about one-month later patient had complete resolution of mucosal leak on his sixth gastrografin esophagram. Around that time patient had repeat endoscopy with biopsy. Endoscopy showed completely healed perforation. Figure 2 below shows an image of the biopsy findings.



**Figure 1.** shows a CT scan with the yellow arrow pointing to the pneumomediastinum



**Figure 2.** shows esophageal biopsy with squamous mucosa with increased intraepithelial eosinophils (up to 58 per high power field). The yellow arrow points to the eosinophils

### 3. Discussion

Eosinophilic Esophagitis was first described in the mid-1990s with increasing prevalence and a peak age between 35 to 45 years [1]. EE appears to be an immune-mediated response to allergens (mainly foods) that cause esophageal inflammation. [1] Risk factors for EE include atopy, and family history of EE [2]. Esophageal perforation is a rare life-threatening complication of EE and may occur as esophageal damage progress and causes esophageal remodeling [3].

The clinical presentation of EE varies widely and includes dysphagia, chest pain, heartburn and can be complicated by esophageal rupture as seen in our patient [1] The diagnostic criteria for EE include esophageal dysfunction and esophageal eosinophilia with more than 15 eosinophils per high-power field [1]. The endoscopic finding of EE includes edema of the mucosa, esophageal rings, eosinophilic exudates as white spots and linear furrows [4]. Treatment generally involves dietary modifications along with use of topical steroids and proton pump inhibitors [4].

### 4. Conclusion

Eosinophilic esophagitis (EE) is a condition commonly associated with dysphagia and food bolus obstruction.

Most patients are diagnosed between the second to fifth decades of life. It occurs more commonly in men. Our patient fulfilled many of the classic features of EE. He is within the age range and has previous history of recurrent food impactions. Though relatively rare diagnosis physicians should have a high index of suspicion for this disorder to avoid unnecessary complications as seen in our patient.

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