

Endoscopic and Radiologic Findings in Eosinophilic Esophagitis



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KEYWORDS

- Eosinophilic esophagitis • Endoscopic findings EoE • Radiographic findings EoE
- Endoscopic reflux score • Barium esophagram

KEY POINTS

- Endoscopic findings of exudates, rings, furrows, edema, and stricture are frequently seen in eosinophilic esophagitis (EoE).
- These findings are not completely specific for the diagnosis.
- An endoscopic reflux score can be calculated from these findings and correlates with disease activity, but does not alleviate the need for histologic sampling.
- A barium esophagram can show rings, strictures, and small-caliber esophagus in EoE.
- Barium esophagram is a more sensitive test at evaluating esophageal diameter than endoscopy.

ENDOSCOPIC FINDINGS

In general, the endoscopic findings of eosinophilic esophagitis (EoE) are highly suggestive but not diagnostic of the disease.¹ The findings can be seen in the entire esophagus or in isolated segments of the esophagus. Not infrequently, these findings may be seen in the more proximal esophagus. Endoscopic findings are not completely sensitive or specific for the diagnosis. Most publications on EoE present highly selected studies. In studies looking at less selected patients undergoing upper gastrointestinal endoscopy (EGD) and routine biopsy, eosinophilic esophageal inflammation (>20 eosinophils [eos] per high-power field [hpf]) was present in 12% of unselected adult patients with dysphagia,² in 15% of adult patients with dysphagia without another evident cause,³ and in 6.5% of adult patients undergoing EGD for any reason.⁴ In these studies, 16% to 33% of these adult EoE patients had no endoscopic findings of the disease.^{2,3} Similarly, the specificity of endoscopic findings is

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incomplete. These studies were remarkably similar in that only 34% to 40% of the patients with endoscopic rings were found to have significant esophageal eosinophilia.²⁻⁴ It was suggested early in the EoE story, that the lack of sensitivity of endoscopic findings was a result of underrecognition,⁵ but as experience with the disease has progressed, the endoscopically normal esophagus in a minority of EoE patients has persisted.⁶⁻⁸

The field moved forward significantly with the publication of a standardized and validated reference system for EoE findings published by Hirano and colleagues⁹ in 2013. These findings can be used to calculate the eosinophilic esophagitis endoscopic reference score (EREFS): exudates, rings, edema, furrows, and strictures. The EREFS classification allowed clinicians and investigators to have a standard terminology and a standard scoring system for the endoscopic findings of EoE for clinical practice and trials, respectively.

Major Features

Exudates

Exudates are whitish plaques in the esophagus that are thought to represent eosinophilic inflammation. These plaques can easily be misinterpreted as candidiasis. Exudates are classified as grade 1, mild: lesions taking up less than 10% of the esophageal mucosa, and 2, severe: taking up greater than 10% of the esophageal mucosa (Fig. 1).⁹ Exudates are a finding that was not well described in the earlier descriptions of EoE. In a meta-analysis of 100 studies involving 4678 patients, Kim and colleagues¹⁰ found the sensitivity and specificity of exudates in EoE were 27% and 94%, respectively.

Rings

Rings can be one to several millimeters thick and easily recognized endoscopically (Fig. 2). Rings must persist with esophageal air insufflation. Ringlike structures that deflate with air insufflation are termed feline esophagus. This term had been used often in early descriptions of EoE but was poorly defined. It is likely many of the earlier studies in EoE did not differentiate feline esophagus from fixed esophageal rings that persist with air insufflation. The author suspects in clinical practices there remains some imprecision in the use of this term. Therefore, the sensitivity and specificity of feline esophagus in the diagnosis of EoE are uncertain.

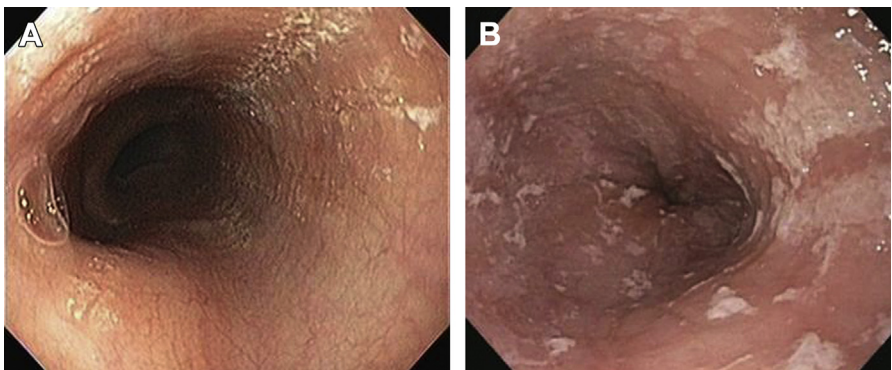


Fig. 1. Classification of exudates. (A) *Grade 1*: White lesions involving <10% of the surface area of the esophagus. (B) *Grade 2*: White lesions involving >10% of the surface area of the esophagus. (From Hirano I, Moy N, Heckman MG, et al. Endoscopic assessment of the oesophageal features of eosinophilic oesophagitis: validation of a novel classification and grading system. *Gut* 2013;62:489-95; with permission.)

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