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Eosinophilic Esophagitis

Benjamin L. Wright, MD^{1,2}, Jonathan M. Spergel, MD, PhD³

¹Division of Allergy, Asthma and Clinical Immunology, Department of Medicine, Mayo Clinic Arizona, Scottsdale, Arizona

²Division of Pulmonology, Phoenix Children's Hospital, Phoenix, Arizona

³Department of Pediatrics, Division of Allergy and Immunology, The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania; Institute for Immunology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, Pennsylvania.

Case Report

A 24 year old male with a history of asthma and allergic rhinitis presents with a food impaction after eating steak. He has a history of food sticking in his throat, uses condiments to lubricate his foods, and drinks large quantities of water with meals. An upper endoscopy is notable for a food bolus, exudates, linear furrowing with rings and narrowing of the esophagus. Esophageal dilation is performed after removal of the piece of steak. Esophageal biopsy reveals greater than 100 eosinophils per high-power field (eos/hpf) in all segments of the esophagus.

The patient is started on a high-dose proton pump inhibitor (PPI) but his esophageal eosinophilia persists. Treatment options including swallowed topical budesonide and dietary elimination are reviewed with the patient. The PPI is discontinued and he begins an empiric two-food elimination diet avoiding all dairy and wheat products. A repeat upper endoscopy is performed two months later that reveals resolution of esophageal eosinophilia. Wheat is reintroduced into the patient's diet and a third esophageal biopsy demonstrates continued disease remission.

Discussion

Eosinophilic esophagitis (EoE) is a clinicopathologic diagnosis characterized by symptoms of esophageal dysfunction and esophageal eosinophilia (≥ 15 eos/hpf).¹ It is the leading cause of food impaction in the US², and, if left untreated, can result in fibrosis and narrowing of the esophagus requiring mechanical dilation.³ Diagnosis requires exclusion of other primary causes of esophageal eosinophilia including: celiac disease, connective tissue disorders, inflammatory bowel disease, parasitic infection, gastroesophageal reflux disease, etc. Previous diagnostic guidelines required a 6–8 week PPI trial to exclude PPI-responsive esophageal eosinophilia (PPI-REE).¹ Strong evidence suggests that EoE and PPI-REE are

most likely spectrum of the same disease^{4, 5}; as a result, new criteria have removed a PPI trial from the diagnostic algorithm.⁶ Notwithstanding, PPI's are still an important therapeutic tool as up to 50% of patients with EoE improve with PPI therapy.⁷

After PPI's, treatment options include swallowed corticosteroids, elimination diets and esophageal dilation. Currently, patients swallow corticosteroids from inhalers or viscous formulations of liquid corticosteroids intended for nebulization. Several new viscous corticosteroid suspensions are currently under investigation.⁸ Corticosteroids induce histologic remission in 50–90% of patients; however, in almost all patients they must be continued indefinitely in order to maintain disease remission.⁹ The most common side effect is esophageal candidiasis, which is often asymptomatic.¹⁰ Other potential adverse effects include adrenal suppression⁸, growth deceleration⁸, and bone loss.¹¹

Approaches to diet elimination may be allergy test-directed, empiric or completely exclude dietary proteins (i.e. elemental formula). Recent studies suggest that skin and atopy patch testing do not confer advantages over empiric elimination approaches.¹² A majority of patients with EoE only have 1–2 food triggers; therefore, a “step-up” approach where common foods are progressively eliminated until histologic remission is achieved reduces the number of required endoscopies.¹³ This is in contrast to “step-down” strategies where six-food (dairy, wheat, egg, soy, peanut/tree nuts, fish/shellfish) or eight-food (dairy, wheat, egg, soy, peanut/tree nuts, fish/shellfish, corn, meats) elimination diets are employed and foods are gradually reintroduced.

Trials of biologic therapies targeting IgE^{14, 15} and eosinophils (i.e. anti-IL-5^{16, 17}, IL-13 agents¹⁸) have been largely disappointing. Early results of phase II trials of dupilumab (anti-IL-4/IL-13 agent) show promise with improvement in both symptoms and histologic endpoints.¹⁹

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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