Eosinophilic Esophagitis (EoE)

Eosinophilic esophagitis (EoE) is a chronic inflammatory condition of the esophagus that may present with a range of symptoms and may affect both children and adults. Prevalence is estimated at 0.5 per 1000 patients and has a bimodal distribution between the ages of 5-10 years and again in the 4th and 5th decade of life. Males are 3-4x more affected, as are Caucasians. Patients may have concomitant atopic conditions such as asthma, allergic rhinitis, and food allergies. As with these conditions, current evidence supports a T helper cell-2 mediated pathway. The cascade of cytokines that attracts and activates eosinophils leads to inflammation. Persistent inflammation leads to fibrotic changes and esophageal stenosis.

Kumar S, Choi S, and Gupta SK. Eosinophilic Esophagitis – A Primer for Otolaryngologists. *JAMA Otolaryng Head Neck*. 2019 Feb Epub ahead of print.

Anatomy, Physiology, Pathophysiology, and Clinical Presentation

- Esophageal mucosa does not typically contain eosinophils
  - >15 eosinophils per high power field is considered abnormal and diagnostic for EoE. Chronic eosinophilic inflammation is responsible for symptoms
- Presentation varies by age
  - Adults typically present with dysphagia and food impactions
  - Younger patients may present with reflux, vomiting, failure to advance to solid foods
  - Adolescents may have abdominal pain, regurgitation of food/emesis
  - Overall, because of its chronicity, patients may develop compensatory eating behaviors and texture preferences that may not be apparent to the patient or their family/caregivers
- Presentation may have otolaryngologic symptoms
  - Rhinosinusitis, cough, hoarseness, throat clearing, foreign body sensation
  - Isolated reports of subglottic stenosis or failed airway reconstruction despite PPI treatment which ultimately were diagnosed with EoE

Kumar S, Choi S, and Gupta SK. Eosinophilic Esophagitis – A Primer for Otolaryngologists. *JAMA Otolaryng Head Neck*. 2019 Feb Epub ahead of print.

Evaluation

- EGD with biopsy is required for diagnosis
  - mucosa may be edematous w/o vascularity
  - linear furrows, eosinophilic exudate known as “white specks of esophageal mucosa”
  - trachealization
  - biopsy showing >15 eosinophils per high power field
  - must biopsy proximally and distally (typically 4 quadrant biopsy in the proximal, mid, and distal esophagus)
  - Esophagram may demonstrate subtle stenosis

- Laboratory evaluation is less helpful but may show eosinophilia or elevated IgE. Neither is necessary for the diagnosis

Treatment – "The 3 Ds: Diet, Drugs, and Dilation"

- Diet
  - Elemental diets; poor compliance
  - Exclusion diet based on testing
  - Empiric exclusion diet: "milk/dairy, soy, wheat, egg, tree nuts/peanuts, and fish/seafood"
- Drugs
  - High dose PPI for 8 weeks
  - Oral preparations of fluticasone and budesonide
    - Inhaler or slurried preparation is swallowed and allowed to contact esophageal mucosa for ~30 min before eating or drinking
  - Oral steroids seem to be more efficacious than PPI based on the review article below
- Endoscopy and Dilation
  - Can confirm lack of response to medication if symptoms persist
  - Dilation performed if no response to medical therapy and there is stricture formation
- Future treatments may include monoclonal antibodies for cytokines along the eosinophilic inflammatory cascade
- Referral to gastroenterology should be considered for diagnosis, surveillance, and treatment

Kumar S, Choi S, and Gupta SK. Eosinophilic Esophagitis – A Primer for Otolaryngologists. *JAMA Otolaryng Head Neck*. 2019 Feb Epub ahead of print.