

# GASTROENTEROLOGY AND DIGESTIVE DISORDERS

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## Eosinophilic esophagitis: Updates in 2018

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**Definition and Epidemiology:** Eosinophilic Esophagitis (EoE) is a chronic immunologic disorder characterized by esophageal dysfunction and dense eosinophilia confined to the esophagus. It has been reported from most continents, with higher prevalence in Western than Eastern countries. It predominantly affects Caucasian males. Current prevalence is estimated as 0.5-1/2000 and incidence 5-10/100,000 in US and Europe.

**Pathophysiology:** EoE has a strong heritability pattern with a 58% concordance rate in monozygotic twins and relative risk of 64% amongst brothers. Many genetic susceptibility elements have been identified including 5q22 at TSLP and 2p23 at CAPN14. These interact with antigen exposure in the form of food and inhalants, and microbiome leading to activation of T helper type 2 cell line of cytokine production including TGF $\beta$ , IL-4, IL-13 and IL-5, thus producing epithelial barrier disruption, eosinophilic inflammation and remodeling. Conceptually, untreated or suboptimally treated EoE progresses from the stage of chronic inflammation to fibrostenosing, producing obstructive sequelae, often in the absence of stenosis and strictures.

### Evaluation:

- Clinical presentations: EoE is clinically suspected in younger children with regurgitation, vomiting, feeding difficulties, and in adolescents and adults with dysphagia and food impaction. It is the most common cause of food impaction. Higher rates of atopic disease such as asthma, atopic dermatitis and hay fever are observed in EoE patients.
- Diagnosis is established by an upper endoscopy with esophageal biopsies showing at least 15 eos/hpf in the appropriate clinical context. Endoscopy features are classically edema, and exudates, notable in the early inflammatory stage, and furrowing, rings and strictures with progression to subepithelial fibrostenosis. A trial of proton pump inhibitor (PPI) therapy does not reliably exclude GERD and hence is not required before the endoscopy. An esophageal impedance offers further investigation of GERD as warranted.
- An esophagram is important when differentiating from anatomical abnormalities and achalasia.
- Endoscopic functional lumen imaging probe (FLIP) is a novel technique that is now being applied to measure esophageal distensibility and in the future may be an adjunct test in the assessment of EoE disease activity.
- Cytosponge and string test are being investigated as less invasive methods for esophageal samples.

**Management:** Standard therapies include elimination diets, topical steroids and PPI. Investigational agents include anti-IL-5, anti-IL-13, anti-IL-4 and IL-13, anti-mast cells and anti IgE.

**Elimination diets:** Removal of key food allergens (milk, wheat, eggs, soy, peanut, tree nuts, fish, shell fish) is the basis of empiric 6, 4 and 2 food elimination, yielding 74/81%, 54/64%, and 40/44% success in adults and children respectively. The 2-4-6 start up study has shown earlier detection of triggers, and less endoscopies.

**Topical swallowed steroids:** The conventional formulations are swallowed fluticasone, and budesonide slurry, with success rate of 50-80%. Recently, orodispersible budesonide tablet has demonstrated achievement of overall histological remission of ~85% at 12 weeks when use was extended from 6 to 12 weeks in non-responders.

**PPI:** It is now known that patients with EoE have clinical and histologic response to PPI independent of their GERD status. Induction is usually achieved with a high dose PPI regimen for 8 weeks, followed by a lower dose for maintenance of remission. 70% children with initial PPI response maintained symptomatic and histologic remission at 1 year on a low PPI dose.

### Biography

Seema Khan is a pediatric gastroenterologist in Washington, District of Columbia and is affiliated with multiple hospitals in the area, including Children's National Medical Center and MedStar Georgetown University Hospital. She received her medical degree from Aga Khan Medical College and has been in practice for more than 20 years. Dr. Khan accepts several types of health insurance, listed below. She is one of 14 doctors at Children's National Medical Center and one of 14 at MedStar Georgetown University Hospital who specialize in Pediatric Gastroenterology.

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