THE LINK BETWEEN EOSINOPHILIC ESOPHAGITIS AND TYPE 2 INFLAMMATION

What is eosinophilic esophagitis (EoE)?

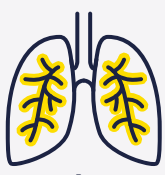
EoE is a progressive, chronic inflammatory disease of the esophagus the tube that connects the mouth to the stomach.[1,2] While there is limited data on global incidence of EoE, a steady rise in prevalence rates has been observed in population studies, suggesting it is an increasingly common diagnosis in North America and Europe. The prevalence is currently estimated at 0.5-1 in 1000.[3,4] **The disease can present at any age, affecting both children and adults.**[2] It is one of the most prevalent inflammatory esophageal diseases.[2]

Symptoms of EoE may vary by age. Common symptoms of EoE in infants and toddlers are reflux-like symptoms, vomiting, nausea, abdominal pain, food refusal and failure to thrive.[2,5] Older children and adults commonly experience **difficulty swallowing (dysphagia), food stuck in the esophagus (impaction)** and non-swallowing associated chest pain.[2,6]

Current, widely used treatment plans for EoE are targeted at symptomatic relief.[6] These plans may include food elimination diets, medications such as swallowed topical corticosteroids or proton pump inhibitors and esophageal dilation, a procedure to physically stretch a narrowed area of the esophagus.[7]

What is type 2 inflammation?

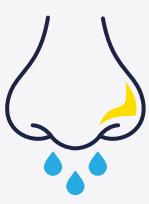
Type 2 inflammation is a specific type of immune response. Its normal function is to eliminate a parasitic infection; however, **when dysregulated**, it **drives aberrant inflammation that can harm healthy tissue** and has been indicated in allergic and atopic diseases such as:



asthma

atopic dermatitis (eczema)

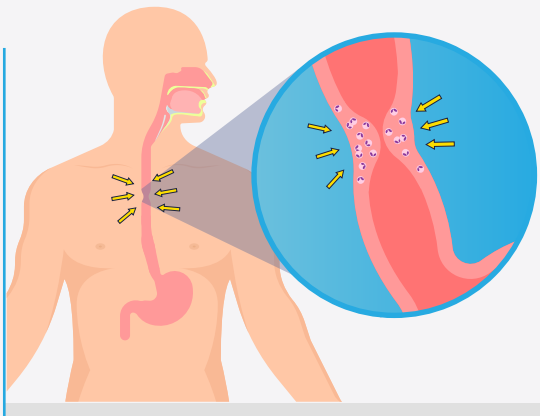
food allergies



allergic rhinitis

chronic rhinosinusitis with nasal polyps[8,9]

What is the link between EoE and type 2 inflammation?



Evidence suggests that EoE is largely driven by type 2 inflammation which leads to scarring and narrowing of the esophagus, making it difficult to swallow.[5]

Underlying type 2 inflammation means that people with EoE are more likely to live with other allergic diseases, and it has been reported that up to 75% of people living with EoE have a personal or family history of such diseases.[8] **Coexisting type 2 inflammatory diseases add to the overall disease burden**.[10]

Widely-used standard-of-care therapies for EoE do not address type 2 inflammation and are only effective in certain patients with EoE.[2,6,11] Only 38% of adults with EoE are reportedly content with their current treatment.[6] If chronic type 2 inflammation is not addressed, symptoms may worsen over time as the esophagus becomes more damaged. This could result in functional abnormalities and potentially an irreversible narrowed esophagus.[2,5]

An optimal therapeutic intervention in EoE must improve symptoms as well as control the underlying inflammation.[12] Therapeutics, such as biologics, offer hope for people living with EoE.[7,13]

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