



## **Eosinophilic Esophagitis**

### **What is it?**

An eosinophil is a type of white blood cell that works as a part of the body's immune system. Usually they are found in a small number in the blood and in the GI tract, but not usually in the esophagus. When eosinophils are present in the esophagus they may contribute to inflammation and injury.

### **Who gets it?**

This disorder can affect anyone; the majority of cases have been men in their 20-30s. In children, males also tend to be more affected than females and more often in Caucasian individuals. The number of cases of eosinophilic esophagitis is increasing but this may be partly due to increased recognition. Many people have a history of allergies to food or the environment and/or a history of asthma and atopic dermatitis. These individuals may also have an increased number of eosinophils in your blood.

### **Why does it happen?**

The cause of this disorder is not completely understood, but is likely related to both genetic and factors in the environment. Once the eosinophils are in the esophagus they may cause local inflammation and this might cause difficulty with swallowing.

### **What are the symptoms?**

The symptoms are variable depending on the patient's age:

In adults:

- Trouble swallowing. Most often this is noticed with solid foods.
- Food impaction. 54% of people with eosinophilic esophagitis patients will experience episodes of food getting stuck in the esophagus.
- Chest pain, often located in the center
- Heartburn
- Upper abdominal pain

In children:

- Feeding dysfunction, such as not developing normal eating patterns, not progressing to other foods after liquids, or refusing solid foods
- Vomiting
- Abdominal pain
- Trouble swallowing
- Food impaction

## How is it diagnosed?

Based on symptoms, the diagnosis is usually made by **upper endoscopy** where a tube with light and camera is inserted through the mouth, into the throat, down to the stomach and first part of your small intestine. Tissue samples can be taken during this procedure. There are some specific findings associated with this condition as listed below, but sometimes the esophagus looks completely normal:

- Stacked circular rings (“feline” esophagus)
- Strictures, or narrowing, especially near the top of the esophagus
- Changes in the appearance of blood vessels of the esophagus
- Linear furrowing
- White bumps
- Narrow esophagus

As mentioned, taking tissue samples of the esophagus is important. When looking under the microscope at the tissue there are often over 15 eosinophils per high power field.

Other tests that may be performed include:

- **Esphagram/Barium swallow:** this is an x-ray that is taken during and after swallowing a thick chalky liquid that covers the walls of the esophagus and stomach.
- **Blood work:** There is no test that will specifically diagnose eosinophilic esophagitis. Over half of people will have an elevated IgE level (a specific protein that the immune system uses) and 40-50% of patients have increased eosinophils in their blood

## How is it treated?

Treatment can include diet, medicines and procedures during an upper endoscopy.

- **Dietary therapy** is more often used, and successful, in children than adults. This is based on the fact that many patients have food allergies and possibly these allergies lead to eosinophilic esophagitis. While avoidance of the problem foods can be effective, at times this can cause a lack of nutrients and often symptoms return if the special diet is stopped. This treatment is typically only tried with the help of a dietician or allergist. There are a couple specific dietary approaches, *elimination diet* where complete food groups are avoided (often specifically 6 foods: milk, soy, eggs, peanuts/tree nuts, wheat and seafood) or an *elemental diet* where a formula is consumed either through the mouth or a tube that has all the necessary nutrients. The elemental diet is expensive and often does not taste good. Elimination diets have also been tried in adults but require substantial lifestyle changes.
- **Medicines**
  - *Acid suppression.* Proton pump inhibitors (PPI), medicines that decrease acid levels, may help, because the inflammation in the esophagus makes the tissue more prone to injury and more sensitive to acid. Also heartburn or gastroesophageal reflux disease

(GERD) can be present with eosinophilic esophagitis and a PPI can work to treat this or perhaps works by an alternative anti-inflammatory way.

- *Topical glucocorticoids.* Swallowed steroids work to cut down inflammation right at the tissue of the esophagus. Most people respond quickly, within several days or a week and are treated for 6-8 weeks. Sometimes symptoms return when the treatment is stopped and maintenance treatment is necessary.
- **Esophageal Dilation.** An upper endoscopy is performed with a lighted tube placed down the throat into the stomach. This time, a balloon is also inserted and when it is inflated, it will stretch the esophagus. This can also be done with a bougie (a soft tapered instrument dilator). Although this can provide relief, it does not impact the inflammation that initially caused the narrowing. Often it is only used if medicines do not work or the narrowing is very significant.

### **What can I do?**

Because of the strong link of eosinophilic esophagitis with allergies, often a referral to an allergist or immunologist is made to help guide treatment decisions.

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