

Spurred by food allergies, two esophagus conditions stump doctors

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Researchers at the UNC School of Medicine found that two on-the-rise esophagus conditions are so similar that even a biopsy is not enough to distinguish one disease from the other.

One condition is called eosinophilic esophagitis, or EoE. The other is PPI-responsive esophageal eosinophilia, or PPI-REE. Symptoms for each condition include difficulty swallowing, persistent heartburn, and getting food stuck in the throat. Both are diagnosed with an endoscopy, which reveals high numbers of a certain type of white blood cell – an eosinophil – in biopsies of both conditions. But finding a lot of white blood cells does not distinguish EoE from PPI-REE, said Evan Dellon, MD, MPH, associate professor of medicine and epidemiology and lead author of a study published in the *American Journal of Gastroenterology*.

Dellon says that both conditions can be the result of a food allergy, but they require different treatments.

Patients whose white [blood cell count](#) can be lowered by antacid medications, also called proton-pump inhibitor (PPI) medications, are diagnosed with PPI-REE. However, finding out if the white blood cell count was lowered requires a second endoscopy and biopsy. If the count remained high, then [patients](#) are diagnosed with EoE and require an anti-inflammatory medication, such as a steroid typically used to treat asthma.

"Unfortunately, right now the only way to differentiate between the conditions is to do the PPI medication trial and then repeat the endoscopy," Dellon said.

During his study, Dellon's team wanted to see if any symptoms, endoscopic views of the esophagus, or tissue samples could help him differentiate the two conditions so that future patients wouldn't have to go through an eight-week

antacid trial and a second endoscopic biopsy, an invasive procedure that is safe but costly and requires sedation.

The study enrolled 223 patients with esophageal complaints. Dellon's team took small samples of tissue from the patients and examined them for the presence of eosinophils—[white blood cells](#). Patients with a high eosinophil count were given an 8-week course of antacids. The study showed that approximately 30 to 40 percent of the participants responded to the antacid medication. They were diagnosed with PPI-REE.

Patients who did not respond to antacids were diagnosed with EoE. There are no FDA-approved medicines for EoE, so the steroids that doctors prescribe are considered off-label use. There are, however, several randomized, double-blind studies that show that these medications work for EoE.

"The other option for treating EoE is to try a variety of elimination diets to remove the most common food triggers, such as wheat, dairy, soy, or eggs," Dellon said. "We know that it's mostly an allergic reaction because if you take away all allergens, nearly everyone will get better very quickly. But that isn't a practical treatment for many people."

After rigorous analysis, Dellon and his colleagues did not find any clinical or endoscopic characteristics that could reliably distinguish the two conditions. This means patients will still need to undergo the PPI trial and repeat endoscopy in order to be properly diagnosed.

Dellon's team is working on an extension of this study that uses a special stain on the cell biopsies that he hopes will predict who will respond to antacids. Dellon also wants to investigate patient genetics as a possible diagnostic tool.

"This whole antacid response and even the existence of PPI-REE as a condition weren't really

described well until two years ago," Dellon said. "So the diagnostics are still very much in flux right now."

More information:

[www.nature.com/ajg/journal/v10 ...
ull/ajg2013363a.html](http://www.nature.com/ajg/journal/v10...ull/ajg2013363a.html)

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