

Making a Diagnosis Easier to Swallow

One night last summer, David was taking a tablet to aid his sleeping. Suddenly, the tablet became lodged in his throat. "We took him to the emergency room, and they used an EGD [esophagoduodenoscope] to push it down," says his mother Sarah. The hospital visit soon led to a diagnosis of eosinophilic esophagitis.

Eosinophilic esophagitis, or EE, is a newly recognized eosinophilic disorder first identified by pediatric gastroenterologists. Eosinophils, a type of white blood cell, are an important part of the immune system, helping fight off certain types of infections and are present at the site of allergic reactions. When eosinophils occur in higher than normal numbers in the body without a known cause, an eosinophilic disorder may be present. With EE, an abnormal number of eosinophils are present in the esophagus, the tube that connects the mouth to the stomach.

Difficulty swallowing and even stricture (or narrowing) of the esophagus result from EE. For David, EE was closing his throat causing that tablet to get stuck in his throat. Continued esophageal stricture can lead to tissue injury, inflammation, and thickening of the esophageal layers. EE symptoms also include food impactions, nausea and vomiting, poor growth or weight loss, poor appetite, difficulty sleeping, and reflux symptoms that do not respond to therapy. An EE diagnosis is made on the presence of clinical symptoms and on the basis of an esophageal biopsy in which many eosinophils are seen as well as the absence of acid reflux (failure to respond to acid reduction therapy).

"Evidence indicates EE is an allergic response in most patients," according to Dr. George Fuchs, a gastroenterologist at ACH. Concerning treatment, Dr. Fuchs adds, "Nothing can cure it."

Dietary treatment is one way to relieve EE. Among these treatments is dietary therapy by removing certain foods from the diet that are the most common causes of food allergies. However, this is a difficult diet and is not successful in all children. Another dietary treatment removes intact protein from the diet and substitutes an amino acid formula; however, these formulas have a very bad taste for all children except for infants. Medications are the second method to control inflammation and suppress the eosinophils. Steroids are used if dietary measures do not resolve the symptoms; however, the disease comes back when the steroids are stopped. Both dietary and steroid treatments require additional endoscopies to assess how the esophagus is responding to treatment because the disease can come back and cause damage, even with few or no symptoms.

After discussing David's examination and other medications, the diagnosing physician suggested that David and his family learn about clinical trials Dr. Fuchs is doing on a possible new treatment for EE. The treatment involves a monthly intravenous infusion of an IL-5 inhibitor; it has been learned that IL-5 inhibition can lead to the resolution of EE. The trial for which Dr. Fuchs is the ACH site investigator studies treatment of pediatric EE with the medication. The



David's success in a clinical trial allows him to enjoy his favorite meals without problem.

medication is undergoing FDA-approved testing through the trial for approval as a pediatric EE treatment.

Dr. Fuchs is seeing enrolled patients at ACHRI's Pediatric Clinical Research Unit. At the PCRU, patients receive a monthly IV infusion for four months. PCRU staff contact the family weekly for a safety check up. Of the two studies, the first is a blinded placebo study in which some patients receive the medication and some receive a placebo. The actual medicine delivered is not known until treatment has ended. Once the children complete this first study, they can enter the second study which is called an open label study where patients and researchers are aware of the actual dose the child is receiving. "We can increase the dose if necessary," says Dr. Fuchs.

David, now 9, has completed the placebo study and is now in the open label study. Mom Sarah notes that Dr. Fuchs and the PCRU staff have been wonderful and made the entire process painless. "David's having great success," says Sarah. "He was avoiding certain foods because of it...some foods he couldn't chew into small enough bits to eat," she explains. Now David can enjoy one of his favorite meals, his mom's grilled steaks. Dr. Fuchs notes, "This is a condition that can be very painful and disruptive, and it is really good having something to offer patients."



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