

Comparing Two Restrictive Diets for Treating Eosinophilic Esophagitis in Children

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What was the research about?

Eosinophilic esophagitis, or EoE, is a health problem that occurs when the esophagus, which connects the mouth to the stomach, becomes inflamed with allergy-related cells called eosinophils. EoE symptoms include nausea, vomiting, stomach pain, and having a hard time swallowing.

For children with EoE, treatment can include a restrictive diet, which means removing one or more types of food from what they eat. They can also take medicine. Both treatments can work, but they may also cause problems. For example, limiting a child's diet can affect growth or be hard to manage. Medicine can have harmful side effects.

This study had two parts. First, the research team compared two diets:

- A diet that removed one food: milk
- A diet that removed four foods: milk, egg, wheat, and soy

Then, the research team changed the treatment for children whose restrictive diet wasn't improving symptoms, to see if the change would help.

What were the results?

At the end of the first part of the study, both diets resulted in improved symptoms, quality of life, and well-being. Symptoms improved more in children who removed four foods from their diet compared with

children who removed only one food. In addition, 40 percent of children in both groups showed remission. In remission, few allergy-related cells are found in the esophagus.

Too few children were in the second part of the study to make any conclusions.

Who was in the study?

The study included 63 children, ages 6 to 17, who had EoE and were receiving care at specialty clinics across the United States. Of these children, 87 percent were white, 8 percent were black, and 5 percent were of another race; 11 percent were Hispanic. The average age was 12, and 67 percent were boys.

What did the research team do?

In the first part of the study, the research team assigned children, by chance, to one of the two diets. Children followed their assigned diet for three months. Children who didn't improve changed their treatment for the next three months. Those who had removed only milk from their diet also removed egg, wheat, and soy. Children who had removed four foods started taking medicine.

At the start and end of each part of the study, children or their parents answered questions about symptoms, quality of life, well-being, and if the children had followed their diets.

Organizations supporting children with EoE and the families of children with EoE gave input on this study.

What were the limits of the study?

The research team didn't enroll as many children in the study as they had planned. Results may have differed if more children had taken part. Also, 60 percent of children didn't continue with the second part of the study. Children and their parents knew which treatment group they were in; this information may have affected how they reported symptoms.

Future research studies could look at the effect of cutting out only foods with uncooked milk, such as cheese and yogurt, and allowing foods in which the milk is cooked. Studies could also test removing six

types of food from the diet when removing four types of food doesn't help. In addition, researchers could find ways to make it easier for children to take part in the research studies.

How can people use the results?

Doctors, children, and their caregivers can use these results when considering different diets to treat EoE, especially when thinking about trying a diet that first removes milk products.

To learn more about this project, visit www.pcori.org/Rothenberg237.