study was to investigate the efficacy and safety of low-dose OIT with approximately 1/32 of the volume of a whole egg.

STUDY POPULATION. Thirty-three children (aged ≥5 years) with egg allergies confirmed by oral food challenge (OFC) against 1/32 of a heated whole egg (194 mg of egg protein) were enrolled. Twenty-one children were enrolled in the OIT group and 12 in the control group.

METHODS. Children in the OIT group were admitted to the hospital for 5 days of buildup, and then at home, this group was encouraged to consume 62 to 194 mg of egg protein in scrambled form once a day. The amount of egg eaten, severity of provoked symptoms, and treatments administered were recorded in a diary. Egg consumption was completely absent in the control group. Twelve months later, the daily intake of egg ceased for 2 weeks, and an open OFC was performed on up to one-half of a whole egg. There were no significant differences between the groups in terms of subject background.

RESULTS. The proportion of subjects showing sustained unresponsiveness to 1/32 of a whole egg was 71.4% (15 of 21) in the OIT group and 0% (0 of 12) in the control group ($P < .001$). Subjects exhibiting sustained unresponsiveness to one-half of a whole egg were 33.3% (7 of 21) and 0% (0 of 12) in the OIT and control groups, respectively ($P = .032$). Compared with baseline levels, egg white– and ovomucoid-specific allergic markers were significantly different in the OIT group but not the control group. Adverse allergic reactions were infrequent, and most symptoms were classified as Grade 1 (mild). There were no Grade 3 (severe) symptoms reported. No subjects withdrew from the study, no epinephrine was used, and no emergency department visits occurred.

CONCLUSIONS. This study demonstrates that low-dose egg OIT may be safe and effective in a high-risk egg-allergic population, inducing both immunologic changes and sustained unresponsiveness to low doses and higher doses of egg. In addition, most adverse reactions were mild, no severe symptoms were reported, no epinephrine was used, and there were no emergency department visits.

REVIEWER COMMENTS. One of the major concerns with traditional OIT to foods is the amount, frequency, and severity of adverse allergic reactions, often causing significant subject withdrawal from these studies. This study demonstrates that using a lower dose of OIT is potentially safer. It also demonstrated effectiveness at inducing sustained unresponsiveness to both a low dose and a higher dose of egg protein. There are several limitations to the study, the first being this was a nonrandomized, open-labeled trial with a small sample size. Also, sustained unresponsiveness was only measured 2 weeks after stopping therapy, whereas most traditional studies use 4 or 6 weeks. Nevertheless, this could prompt future randomized controlled trials examining the safety and effectiveness of low-dose OIT.

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Ondansetron in Acute Food Protein-Induced Enterocolitis Syndrome, A Retrospective Case-Control Study

Miceli Sopo S, Bersani G, Monaco S, et al. *Allergy*. 2017; 72(4):545–551

PURPOSE OF THE STUDY. This study looked at the effectiveness of parenteral ondansetron in resolving acute symptoms of food protein–induced enterocolitis syndrome (FPIES).

STUDY POPULATION. This study examined patients aged 4 months to 14 years with a positive oral food challenge (OFC) for FPIES.

METHODS. This was a retrospective case series of OFCs done to either definitively diagnose FPIES or to assess for the resolution of FPIES. Positive challenges were defined as those that induced a reaction of vomiting within 0.5–6 hours of ingestion without cutaneous or respiratory symptoms suggestive of an IgE-mediated reaction. Treatment was categorized as traditional (normal saline IV bolus and methylprednisolone), ondansetron, or no therapy. Therapeutic success was defined as cessation of vomiting.

RESULTS. Sixty-six patients were included; 37 received ondansetron, 14 received traditional therapy, and 15 received no therapy. Nineteen percent of children in the ondansetron group continued to vomit compared with 93% in the traditional therapy group.

CONCLUSIONS. Parenteral ondansetron is significantly more effective than traditional therapy in resolving symptoms of FPIES. The findings suggest an effective treatment of vomiting in positive FPIES OFCs and allow for more confidence in performing OFCs.

REVIEWER COMMENTS. Food protein–induced enterocolitis is a non-IgE–mediated allergic disease of early childhood characterized by repetitive, profuse vomiting episodes and presenting within 1 to 4 hours of ingesting a triggering food. Cow's milk, soy, grains, egg, and fish are among the most common triggers. The diagnosis is primarily made through clinical history. While the pathophysiologic mechanism of the disease is not completely known, this study confirms prior research that ondansetron plays an important role in terminating episodes of FPIES reactions. The diagnosis of FPIES should be considered among patients with recurrent vomiting from triggering foods. Ondansetron can be used as a first-line therapy in the treatment of FPIES episodes

because it was shown in this study to terminate vomiting episodes and resolve and lethargy.

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Correlation Between Aeroallergen Levels and New Diagnosis of Eosinophilic Esophagitis in New York City

Fahey L, Robinson G, Weinberger K, Giambrone AE, Solomon AB. *J Pediatr Gastroenterol Nutr*. 2017;64(1):22–25

PURPOSE OF THE STUDY. Eosinophilic esophagitis (EoE) is often associated with atopic/allergic disorders. Seasonality has been established in the diagnosis of eosinophilic esophagitis, but there are limited data to support the contribution of aeroallergens to the development of EoE. This pilot study was designed to determine whether there is a seasonal variation in the onset of symptoms and/or diagnosis of EoE and whether these variations correlate with a specific pollen concentration within New York City.

STUDY POPULATION. All pediatric patients ages 0 to 21 years old diagnosed with EoE by histologic diagnosis between 2002 and 2012 at New York-Presbyterian/Weill Cornell Medical Center. Histologic diagnosis was defined as >15 eosinophils per high-powered field on esophageal biopsies after treatment for 6–8 weeks with a proton pump inhibitor.

METHODS. Retrospective chart review of EoE pediatric patients assessed for date of initial symptoms as identified by the pediatric patient and parental recall and date of histologic diagnosis. Demographic data, including sex, ethnicity, concomitant atopic disorders, and residential county, were obtained. Atmospheric pollen was collected using a Burkard volumetric spore trap from 2009 to 2012, and the data were examined for 11 taxa: *Acer* (maple), *Betula* (birch), *Populus* (poplar), *Ulmus* (elm), *Quercus* (oak), *Carya* (hickory), *Fraxinus* (ash), *Platanus* (sycamore, London planetree), *Fagus* (beech), *Poaceae* (grass pollen family), and *Ambrosia* (ragweed). To assess seasonal deviations in the distribution of observed EoE patients diagnosed, the binomial test was used to compare observed results with a theoretically expected distribution. Spearman rank correlation coefficient was used to assess the correlation between peak allergen count and onset of EoE.

RESULTS. Sixty-six patients were identified and classified by the date of initial symptoms and date of histologic diagnosis. There was a seasonal variation in the onset of symptoms and diagnosis of EoE, with the highest number of patients reporting onset of symptoms of EoE from July to September and with diagnosis being made in the next season (October to December). There was a seasonal correlation between peak levels of grass pollen and peak onset of EoE symptoms, which were both highest from July to September.

CONCLUSIONS. The data suggest that there is a correlation between specific aeroallergen levels and both the onset of symptoms and time of diagnosis of patients with EoE in New York City.

REVIEWER COMMENTS. The strength of this study is that it identifies a correlation between aeroallergen exposure with symptoms and diagnosis in pediatric EoE. The limitations of this study include the significant variability in the length of time between the initial onset of symptoms of EoE and the date of diagnosis of EoE as well as the retrospective nature of the data collection. The possibility of inaccurate patient recall of month or season of symptom onset is likely. In addition, the pollen counts were collected in 2009, a full 7 years after some of the patient samples were collected. The pollen counts may have changed over this decade.

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Increased Prevalence of Airway Reactivity in Children With Eosinophilic Esophagitis

Krupp NL, Sehra S, Slaven JE, Kaplan MH, Gupta S, Tepper RS. *Pediatr Pulmonol*. 2016;51(5):478–483

PURPOSE OF THE STUDY. To assess the prevalence and determine clinical factors, biomarkers, or allergic sensitization that may be predictive of airway hyperresponsiveness (AHR) in children with eosinophilic esophagitis (EoE).

STUDY POPULATION. The study group included children ages 7 to 18 years ($n = 33$), with biopsy-diagnosed EoE, on stable medications (excluding systemic antibiotics or corticosteroids) for at least 4 weeks, and no other lung disease aside from asthma or allergies. Age-matched healthy controls ($n = 37$) without EoE, asthma, other lung disease, or atopic disease in the preceding year were enrolled from the general population.

METHODS. Cross-sectional analysis included a retrospective chart review, an assessment of most recent EoE control, and the presence and severity of comorbid asthma and atopic dermatitis. Pulmonary function testing with methacholine challenge and exhaled nitric oxide (eNO) were prospectively measured. AHR was defined as a provocative concentration necessary to affect an FEV_1 decrease of 20% (PC_{20}) <8 mg/mL. Peripheral blood was analyzed for complete blood count with differential, total serum IgE, IL-4, IL-5, IL-13, eotaxin, EGF, and FGF-2. Specific IgE to house dust mite, ragweed, Alternaria, timothy grass, Bermuda grass, cedar, and cat were measured by using ELISA (positive >0.70 IU/mL).

RESULTS. Children with EoE had a higher frequency of allergic rhinitis, atopic diagnosis, physician-diagnosed asthma, food allergy, prior wheeze and respiratory symptoms, eczema, total serum IgE, peripheral eosinophilia, and more frequent sensitization to at least 1 aeroallergen

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