

Cross Sectional Evaluation of Food Triggers for Food Protein Induced Enterocolitis at A Single Institution: A Pilot Study



Courtney Cotter DO¹, Angelea Heider MD¹, Vanessa Martinez MD², Theodore Kelbel MD³

¹Spectrum Health/Michigan State University Internal Medicine & Pediatrics Residency Program
²Spectrum Health/Michigan State University Pediatrics Residency at Helen DeVos Children’s Hospital
³Spectrum Health/Helen DeVos Children's Hospital Allergy Immunology



Introduction

- Food protein-induced enterocolitis syndrome (FPIES) is a non-IgE mediated food allergy diagnosed based on clinical findings of vomiting 1-4 hours after ingestion with a component of delayed diarrhea 24 hours after ingestion.
- FPIES triggers vary based on the patient’s geographical location around the world.

Clinical Criteria for FPIES

Major Criteria	Minor Criteria
<ul style="list-style-type: none">Vomiting 1-4 hours after ingestionAbsence of IgE-mediated allergic skin or respiratory symptoms	<ul style="list-style-type: none">>2 episodes of repetitive vomiting after ingestionRepetitive vomiting 1-4 hours after a different food ingestionExtreme lethargyMarker pallorNeed for Emergency Department visitDiarrhea within 24 hours of ingestionHypotensionHypothermia

Objective

In Grand Rapids, Michigan at the Spectrum Health Allergy Immunology Department, investigators wished to review FPIES triggers specific to this geographical area

Methods

- A retrospective cross-sectional study was conducted analyzing food triggers for patients seen at the Spectrum Health Allergy and Immunology Department and diagnosed with FPIES over a four-year period from 2016-2020.
- 15 patients met criteria were included. All patients experienced severe vomiting and diarrhea after ingestion of trigger.

Results

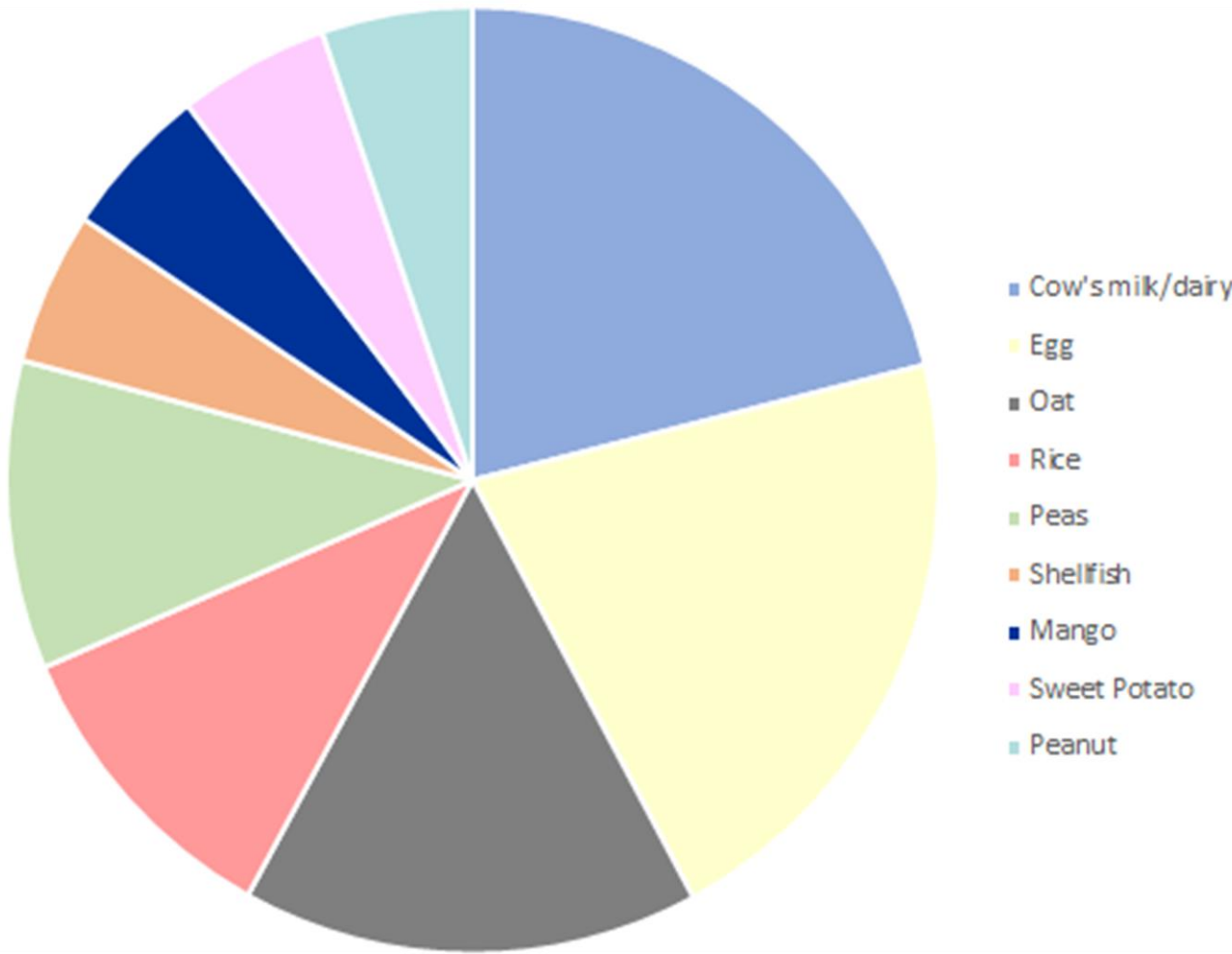
Table 1: Prevalence of Individual FPIES Food Triggers in a Grand Rapids Allergy Clinic

Food Trigger	Percentage of Patients Reacting
Cow's milk/dairy Egg	26.6%
Rice Peas	13.3%
Shellfish Mango Sweet Potato Peanut	6.7%

Table 2: Number of FPIES Triggers to which an Individual Patient Reacted

Response to 1 Food Trigger	Response to 2+ Food Triggers
53%	46%

Individual FPIES Food Triggers in a Grand Rapids Allergy Clinic



Discussion

- Despite previously published literature stating egg as a relatively uncommon trigger, 26.6% of patients developed FPIES in response to egg making it just as likely to cause FPIES as cow’s milk and dairy.
- In the United States, rice is named as the most common solid food trigger. In the studied patients in Grand Rapids Michigan, only 20% patients developed FPIES in response to rice.
- Interestingly, 53% of the patients in this study reacted to more than one food trigger. Previously published data states that approximately 65% of patients with FPIES are reactive to a single food whereas 35% will react to two foods or greater.

Conclusion

- Food Protein Enterocolitis can be a very debilitating illness with a high burden on families. This single institution study highlights the importance of recognizing geographic changes in common triggers of FPIES.
- Review of common triggers at each institution allows for Allergy/Immunologists to best serve the specific population.