



**Меѓународен Симпозиум  
НОВИНИ ВО ПЕДИЈАТРИСКА ПУЛМОЛОГИЈА  
International Symposium  
CURRENT TOPICS IN PEDIATRIC PULMONOLOGY**



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# **Challenge in diagnosing food protein induced enetrocolitis syndrome**

**Marija Dimitrovska-Ivanova MD,  
PhD**

Clinical Hospital Stip, Department of Pediatrics  
Goce Delcev University, Faculty of Medical  
Sciences



# Introduction

- Food protein induced enterocolitis syndrome (FPIES) is a non-IgE-mediated food allergy that typically presents in infancy, with repetitive protracted vomiting that begins approximately 1 to 4 hours after food ingestion.
- Vomiting is often accompanied by lethargy and pallor and can be followed by diarrhea.
- Delayed onset and absence of cutaneous and respiratory symptoms suggest a systemic reaction different from anaphylaxis.
- FPIES is elicited most commonly by milk and soy proteins, however, rice, oat, and other solid foods may also elicit FPIES.
- FPIES involves antigen-specific T cells, antibodies, and cytokines as a cause of the inflammation which cause an increased intestinal permeability and fluid shift into the gastrointestinal lumen.
- The diagnosis of acute FPIES requires that a patient meets the major criterion and  $\geq 3$  minor criteria.

Nowak-Wegrzyn, 2017  
Jarvinen, 2013



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# Materials and Methods

- Two months old male infant presented with severe vomiting and diarrhea few hours after introduction of milk formula. On examination subicteric, with signs of severe dehydration, abdominal distention, systolic heart murmur 2/6 in the middle precordium and minor facial dysmorphism.
- Initial laboratory tests with hyponatremic dehydration, metabolic acidosis, elevation of liver enzymes and direct hyperbilirubinemia.
- Rehydration was initiated, ursodeoxycholic acid was introduced, metabolic acidosis was corrected, and eHF nutrition was started.



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# Results

- Differential diagnoses for cholestatis were excluded including genetics for Allagile Sy.
- Six months after stabilization, folow up formula was introduced with the appearance of repetitive vomiting more than 10 times and mild diarrhea lasting 24 hours with moderate dehydration treated with parenteral rehydration.
- Due to suspicion of acute FPIES, eHF was reintroduced into the diet.
- Total IgE in normal ranges and specific IgE for nutritive alergens were negative.
- One month later after 2 hours of unintentional intake of solid food containing milk with the recurrence of vomiting and diarrhea with consequent moderate-severe dehydration, metabolic acidosis, an increase in leukocytes toward neutrophilia, which confirmed the suspicion of acute FPIES.



# Conclusion

- Treat acute FPIES as a medical emergency and be prepared to provide aggressive fluid resuscitation because approximately 15% of patients can have hypovolemic shock.
- Consider Ondansetron as an adjunctive management of emesis in patients with acute FPIES.
- Infants with cow's milk/soy-induced FPIES can be breast-fed or use a hypoallergenic formula, such as casein-based extensively hydrolyzed formula.
- Development of tolerance in patients with CM-induced FPIES has been reported to occur by the age around 3 years.
- Unmet needs in the field include identification of noninvasive biomarkers, understanding the pathophysiology, and having uniform approaches to diagnosis and management.

Nowak-Wegrzyn, 2017  
Baker and Sampson, 2022



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