

Article

Remission of Acute Food Protein-Induced Enterocolitis Syndrome Confirmed by Oral Food Challenges in Japan

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Abstract: The oral food challenge test (OFC) is the gold standard for evaluating the remission of food protein-induced enterocolitis syndrome (FPIES). Few acute FPIES remissions confirmed by OFC were reported. This study aimed to examine the OFC for Japanese children with acute FPIES to evaluate its remission. A retrospective cohort study was performed on children with acute FPIES with remission evaluation by OFC based on one food challenge dose (1/50, 1/10, 1/2, and full dose per day). Acute FPIES remission was observed in 65.2% of patients (15/23 patients). Vomiting episodes occurred with 1/50 full doses on the first day among 75% of positive patients. The median duration between the onset and OFC was 14 months (IQR, 8–24 months). Soy was the most common causative food, followed by egg yolk, milk, and wheat. All patients could receive OFC safely without intensive care unit care, based on the FPIES OFC protocol. The remission rate of acute FPIES was high. However, vomiting episodes commonly occurred with 1/50 full doses on the first day. This study suggested that our OFC protocol for acute FPIES was safe and feasible, but it might be safer for some patients to start at a minimal loading dose.

Keywords: allergens; dietary proteins; enterocolitis; food hypersensitivity; immune tolerance



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1. Introduction

Food protein-induced enterocolitis syndrome (FPIES) is a non-IgE-mediated food allergy with mild-to-severe shock reactions [1]. Acute FPIES is commonly present in infancy with repetitive emesis symptoms starting within 1–4 h after taking potential causal foods. This can be accompanied by lethargy, pallor, diarrhea, abdominal distention, and in its severe form, dehydration, hypotension, metabolic derangements, or shock. Acute FPIES is common and increasing in Japan and other countries [2–4].

The mechanism of FPIES is not well-understood. There is no laboratory test specific to FPIES. It is primarily clinically diagnosed, necessitating a thorough clinical history that reveals repeated reactions to the same food triggers with typical signs and symptoms, an improvement upon the removal of suspected triggers, and exclusion of other causes [5]. The oral food challenge test (OFC) is the gold standard procedure for diagnosing FPIES, but reactions to OFCs can be severe, with 15% presenting with hypotension and shock and 45–95% requiring treatment with intravenous fluids, steroids, or both in young children [6].

An OFC protocol for FPIES was established in the international consensus guidelines [1]. However, it has not yet been standardized in clinical practice or fully studied. In addition, the timing of OFC and its outcomes are unclear in evaluating remission of acute FPIES in patients already diagnosed with acute FPIES. This study aimed to examine OFCs for evaluating remission in Japanese children with acute FPIES.