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Original Article

Tolerability and safety of a new elimination diet for pediatric eosinophilic gastritis and duodenitis

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ABSTRACT

Background: Non-esophageal eosinophilic gastrointestinal disorders (non-EoE EGIDs) are chronic inflammatory disorders with massive infiltration of eosinophils into the gastrointestinal tract. Food elimination diets are potentially effective treatments. But the existing dietary therapies have various weak points. We developed a new regimen to compensate for the shortcomings of the elemental diet and 6-food elimination diet. The new regimen consists of an amino-acid-based formula, potatoes, vegetables, fruits and restricted seasonings. We named it the "Rainbow Elimination Diet (ED)." The aims of this study were to evaluate the tolerability and safety of this diet.

Methods: A retrospective medical record examination was conducted at the National Center for Child Health and Development covering the period from January 2010 through December 2018. The medical records of patients (age 2–17 y) with histologically diagnosed non-EoE EGIDs were reviewed. The tolerability, nutritional intake, symptoms, and blood test findings were evaluated.

Results: Nineteen patients were offered several kinds of food-elimination diets. Seven patients (eosinophilic gastritis: 5; gastroenteritis: 1; duodenitis: 1) were treated with Rainbow ED. Six patients were compliant with this diet. The median duration of the diet induction phase was 15 days (range 14–30). All 5 patients who had had symptoms just before the induction phase became symptom-free. The body weight decreased in 5 patients (median –0.6 kg), probably because the serum protein increased, resulting in reduced edema. All 5 patients with hypoproteinemia had elevated serum albumin (median 2.9–3.5 g/dL). The ingested nutritional elements were calculated, and most of them were sufficient, except for fat and selenium.

Conclusions: The Rainbow ED was well-tolerated and safe for pediatric non-EoE EGIDs.

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