

Nutrition Management of an Adult with EoE and EoG

Background

The use of food allergy elimination diets as a treatment for eosinophilic disorders is widely recognized.^{1,2,3} Restricted diets require careful dietary planning and supplementation to provide adequate macronutrients and micronutrients and promote growth and wellness. Neocate[®] Junior and Neocate[®] E028 Splash are increasingly used among adults with Eosinophilic Esophagitis (EoE) and Eosinophilic Gastroenteritis (EoG) for both complete nutrition as well as supplementation.¹ The following discussion highlights appropriate medical and nutritional management of adults using these supplements for disease control as well as maintaining adequate nutrition.

History

AB is a 23-year-old Caucasian male with a history of EoE and EoG who began medical and nutritional management of the disease in 2010. Symptoms prior to diagnosis included intermittent periods of abdominal pain, nausea and vomiting over a 4 year period. Allergy workup using skin prick testing was negative to food allergens. He was initially medically treated with oral budesonide and SINGULAIR.

In 2011 AB sought a second opinion on medical and nutritional management at an academic medical center specializing in the treatment of eosinophilic disorders. In 2011, Anthropometric assessment revealed an underweight male with a BMI 18.5. (Height: 5'11", weight: 136.0 pounds). He met with a registered dietitian for education and counseling following the six food elimination diet (SFED) where he eliminated the most common allergens including wheat, egg, dairy, soy, nuts/tree nuts and fish/shellfish for six weeks. Repeat endoscopic findings revealed persistent eosinophilic esophagitis, gastroenteritis and enteritis despite restrictive diet. Serum peripheral eosinophilia was also noted. As a result, he was a candidate for a total elemental diet to induce remission and improve nutrition. He was started on Splash with a goal of consuming 9 tetra packs daily for six weeks and an endoscopy would be repeated. To meet protein needs, AB supplemented his diet with 2-3 tablespoons of Complete Amino Acid Mix.



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† Complete Amino Acid Mix is an unflavored, powdered mixture of essential and non-essential amino acids.

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	Calories	Protien
Nutritional needs	2200-2500 (35-40 calories kg/body weight)	75 g (91.2 g/kg/ body weight)
Splash (9 tetra packs daily)	2133 calories	54 g protein
Complete Amino Acid Mix (2-3 tbsp daily)	72-108 calories	18-27 g protein

The patient was able to consume 8-9 tetra packs of Splash daily along with 2 tbsp of the amino acid mixture and was allowed to supplement with Gatorade® for electrolyte and calories, as well as one low allergy fruit such as apples and apple juice. Symptomatically the patient reported feeling well and experienced no episodes of nausea or vomiting. Subsequent EGD (esophagogastroduodenoscopy) revealed no active disease. He was able to maintain his weight during the 6 weeks. He then began the process of food reintroduction moving from least allergenic foods such as rice, fruits and vegetables and progressing into more allergenic foods including oats, legumes and ultimately animal proteins. Each week the patient would add in one new food and would have peripheral eosinophils measured to evaluate tolerance. The whole process of elimination and reintroduction took place over approximately one year while AB continued to consume his base diet of Splash with extra protein. His final list of foods that do not stimulate disease activity included rice and rice products, eggplant, potato and sweet potato, kale, lettuce, cauliflower, broccoli, spinach, apples, pears and grapes. AB wished to be medically managed with a hybrid diet approach of both elemental formula and oral diet without regular medication management. During the diet reintroduction his weight increased to 160 pounds and his BMI is now within the desirable ranges.

During the diet restriction and reintroduction phase, he was prescribed an allergy-free multivitamin, calcium and vitamin D. Serum values of key nutrients were checked regularly to prevent anemia and ensure overall wellness, and were replenished as necessary.

Result/Conclusion

The process of total elemental diet and subsequent food reintroduction for AB was completed over the course of approximately two years with regular medical and nutritional visits to coordinate care plan.

Supplementation of both the Splash and the amino acid mix had a dual impact of blunting disease activity and preserving nutritional status. Often in young adult males with higher protein needs, the complete amino acid supplement is necessary in conjunction with a base elemental formula to provide adequate nutrition without unnecessary calories or volume. Clinicians should check serum values of key micronutrients to evaluate efficacy of nutrition care plan.

This case study was written by Bethany Doerfler MS, RD, LDN.

References: 1. Liacouras CA, Furuta GT, Hirano I, Atkins D, Attwood SE, et al. Eosinophilic Esophagitis: Updated consensus recommendations for children and adults. *J Allergy Clin Immunol.* July 2011;3-20. 2. Gonsalves N, Ritz S, Yang GY, Ditto A, Hirano I. A prospective clinical trial of allergy testing and food elimination diets in adults with eosinophilic esophagitis. *Gastroenterology* 2008: 132. 3. Gonsalves N, Yang GY, Doerfler BD et al. Elimination diet effectively treats eosinophilic esophagitis in adults: dietary reintroduction identifies causative factors.

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