

### 390 **WEIGHT GAIN AND TOLERANCE IN PEDIATRIC PATIENTS USING PLANT-BASED ENTERAL**

**FORMULAS.** Stanley Cohen<sup>1</sup>, Ana Ramirez<sup>1</sup>, Bailey Koch<sup>1</sup>, Benjamin Gold<sup>1</sup>, Vanessa Millovich<sup>2</sup>. <sup>1</sup>Children's Center for Digestive Health Care, Atlanta, GA; <sup>2</sup>Clinical Nutrition, Kate Farms, Inc, Santa Barbara, CA

Introduction: The purpose of this study was to assess the experience of pediatric patients consuming a novel plant-based enteral formula at a single pediatric gastroenterology center.

Methods: After institutional review board approval, a retrospective chart review was conducted on pediatric patients who had been taking a plant-based enteral formula (Kate Farms® Santa Barbara, California) within the previous two years. Age, anthropometrics, medical history, method of administration and nutritional regimen were collected from the patient records for analysis. After inclusion, a member of the research team administered a five-question survey with the primary caregiver of each patient by phone.

Results: A total of 11 patients were found; 9 had anthropometric data available for analysis. The mean age was 13.1 +7.3 years with use of the plant-based formula on an average of 5.9+3.3 months. Medical diagnoses varied: the most common diagnoses were feeding difficulties in 66% (n=6) and failure to thrive (FTT) in 44% (n=4). Ten patients were placed on the intact standard polymeric plant-based formula (1.0 kcal/mL; mean of 704 mL/day); 2 went onto the 1.5 kcal/mL peptide plant-based formula (n=1 at 975 mL/day). The prescribed formula and quantities were decided by the dietitian and/or physician. Four patients received the formula by mouth and 5 received it via feeding tube. For those subjects with available data, 6 were also on a regular diet along with formula.

Of the 9 patients with complete anthropometric data, 7 showed weight gain while on the plant-based formula (Table). For those patients <21 years old with a documented weight-for-age z-score (n=7), 6 showed improvement.

Tolerance questionnaires were completed for 10 patients: 90% of caregivers agreed that their child tolerated the plant-based formula better than their previous regimen and that the new formula improved their child's nutrition; 80% of caregivers also indicated that the plant-based formula improved their child's digestive symptoms (easier bowel movements, less stomach aches, less nausea).

Conclusions: Improved weight-for-age z-scores, weight gain, and parental-reported outcomes of improved tolerance were noted, retrospectively, in this small cohort of patients consuming a plant-based formula at a single pediatric GI center. This is the first study to demonstrate efficacy and tolerance of these novel plant-based enteral formulas in a pediatric population. Prospective trials are needed to expand upon these initial observations.

Weight Change in Patients with Complete Data

Pt # - Sex	Age (years)	Diagnosis	Duration on Formula (months)	Weight (wt.) Change (kg)	Wt.-for-age z-score before	Wt.-for-age z-score after
1-M	19	Feeding difficulty, anorexia, food allergies	6	+0.8	-3.38 <sup>†</sup>	-3.32
2-M	5	Feeding difficulty	8	+2.3	-2.64	-2.00
3-M	6	FTT*, feeding difficulty	8	+2.1	-2.38	-2.11
4-F	3	FTT	5	+1.8	-1.61	-1.26
5-F	17	Esophageal dysphagia	2	+0.8	-3.00	-2.84
6-F	7	FTT	13	+2.4	-1.62	-1.41
7-M	12	Feeding difficulty	6	-0.2	-0.63	-1.06
8-F	23	Feeding difficulty, milk and soy allergy	5	+3.6	N/A	N/A
9-F	20	Feeding difficulty	12	0	N/A	N/A
Mean	13	N/A	6	N/A	-2	-2

\* Failure to thrive

<sup>†</sup> Value corrected and approved by all authors.