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**M146 - Improved GI Tolerance and Weight Gain in Pediatric Patients using Plant-Based Enteral Formulas**

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

**Methods:** After institutional review board approval, a retrospective chart review was conducted on pediatric patients who had been using 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. 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 identified and 9 patients had complete anthropometric data available for analysis. Mean age was 13.1±7.3 years with use of the plant-based formula on an average of 5.9±3.3 months. The two most common diagnoses were feeding difficulties in 66% (n=6) and failure to thrive (FTT) in 44% (n=4). Most patients (n=10) were placed on the intact standard polymeric PBEF (1.0 kcal/mL; mean of 704 mL/day); 2 went onto the peptide PBEF (1.5 kcal/mL; n=1 at 975 mL/day). The prescribed formula and quantities were decided by the dietitian and/or physician. Four (4) patients received the formula by mouth and 5 received it via feeding tube. For those patients with complete 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 PBEF (Table). For those patients < 21 years old with a documented weight-for-age z-score (n=7), 6 showed improvement. Weight gain did not translate into improved BMI z-scores. Tolerance questionnaires were completed for 10 patients: 90% of caregivers agreed that their child tolerated the PBEF better than their previous regimen and that the PBEF formula improved their child's nutrition; 80% of caregivers also indicated that the PBEF improved their child's digestive symptoms (easier bowel movements, less stomach aches, less nausea).

**Conclusion:** Improved weight-for-age z-scores, weight gain, and parental-reported outcomes of improved GI tolerance were noted, retrospectively, in this small cohort of patients consuming a PBEF at a single pediatric GI center. The retrospective design, using a small population, are limitations to this study. However, this supports the need to expand upon these initial observations, with a larger prospective trial.

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**Table 1:** Weight Change in Patients with Complete Data

Pt ID	Sex	Age (years)	Diagnosis	Duration on Formula (months)	Weight (wt.) Change (kg)	Wt.-for-Age Z-Score Before	Wt.-for-Age Z-Score After
006	F	3	FTT	5	+1.8	-1.61	-1.26
003	M	5	Feeding difficulty	8	+2.3	-2.64	-2.00
004	M	6	FTT*, feeding difficulty	8	+2.1	-2.38	-2.11
008	F	7	FTT	13	+2.4	-1.62	-1.41
010	M	12	Feeding difficulty	6	-0.2	-0.63	-1.06
007	F	17	Esophageal dysphagia	2	+0.8	-3.00	-2.84
002	M	19	Feeding difficulty, anorexia, food allergies	6	+0.8	-3.38	-3.32
005	F	20	Feeding difficulty G-tube fed	12	0	N/A	N/A
001	F	23	Feeding difficulty, milk and soy allergy	5	+3.6	N/A	N/A
Mean		13.1	N/A	5.9	N/A	-2.1	-2.00

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