

M101 - Plant-Based Peptide Enteral Nutrition with Phytonutrients in a Pediatric Patient Status Post Bone Marrow Transplant: A Case Report

Melissa Bailey, MS, RD, CNSC, LDN¹; Kelsey Bullard, MS, RD²; Vanessa Millovich, DCN, RDN, LDN³

¹Kate Farms, Philadelphia, Pennsylvania; ²Phoenix Children's Hospital, Phoenix, Arizona; ³Kate Farms, Carpinteria, California

Purpose: Patient, AJ, is a 3-year-old male, with a history of Hemophagocytic Lymphohistiocytosis (HLH) diagnosed at one month of life, now status post (s/p) 10/10 matched unrelated donor stem cell transplant on 2/11/17 at 4 months of life. This case report documents the patient's transition to a plant-based pediatric peptide formula (PBPP) containing a powdered and concentrated phytonutrient blend, s/p bone marrow transplant (BMT). This case report demonstrates the successful concomitant use of an enteral formula containing phytonutrients and immunosuppressive medications, supporting the findings of other similar human trials. Prior to BMT, AJ was on standard dairy-based infant formula (22kcal/oz) PO ad lib. After developing pneumatosis (prior to transplant) patient was NPO on TPN from 12/2016-3/2017 when a nasojunal (NJ) tube was placed. BMT occurred on 2/11/17. Status post BMT, enteral feeds were slowly advanced with a hypoallergenic infant formula (20kcal/oz), and then changed to another hypoallergenic infant formula (20kcal/oz). At 12 months, AJ was transitioned to a Junior version of a hypoallergenic formula (20kcal/oz). The concentration of the formula was slowly increased to 28kcal/oz. On 4/12/18 a G-tube was placed. From 4/12/18 through 10/2/18, patient had intermittent recurrent vomiting and/or diarrhea. From 10/2/18 to 11/16/18, AJ trialed a partially hydrolyzed dairy pediatric formula with soluble fiber (diluted to 26 kcal/oz) and continued to exhibit poor GI tolerance characterized by nausea, vomiting, large/loose stools, and blood in stool. On 11/16/18 patient was transitioned to a PPBP formula with phytonutrients (Kate Farms Pediatric Peptide 1.5 formula-diluted to 24.5 kcal/oz) due to presumed milk protein intolerance. Vomiting episodes significantly decreased, stools began to form, blood was no longer visible in the stool, and the patient began to show an increased interest in PO intake within a few days of the transition. Pertinent medications at time of transition to plant-based pediatric peptide formula 11/16/18: Oral suspensions of: Tacrolimus, Ranitidine, Acyclovir, pediatric multivitamin/mineral, Sirolimus, Fluconazole, Hydroxyzine, Ondansetron

Conclusion: Patient was able to successfully transition to a plant-based pediatric peptide enteral formula containing phytonutrients s/p BMT while on two immunosuppressive medications. There was no documentation of the phytonutrient blend interfering with any of the immunosuppressive medications. Prior to being placed on a PBPP enteral formula, patient had frequent episodes of nausea, emesis, diarrhea, and bloody stool and limited interest in oral intake. Within a few days of transitioning to a PBPP, all gastrointestinal symptoms began to improve, and the patient began to consume more from a regular oral diet for age. This case report demonstrates that a plant-based pediatric peptide formula containing phytonutrients improved GI tolerance, assisted with weight gain, and did not alter the efficacy of immunosuppressive medications in a pediatric patient status post BMT.

Table 1: Patient weight (kg) and corresponding formula type/concentration

Date	Weight (kg)	Formula Type/Concentration (kcal/oz)
10.23.17	10.8	Hypoallergenic; 20
6.4.18	11.43	Hypoallergenic; 22
6.11.18	11.32	Hypoallergenic; 24
7.19.18	11.61	Hypoallergenic; 26
9.11.18	11.49	Hypoallergenic; 28
10.2.18	12.05	MBPP*; 26
11.16.18	11.52	PBPP; 24.5
12.17.18	11.92	PBPP; 24.5
1.3.19	11.94	PBPP; 25
2.18.19	11.1	PBPP; 25
3.6.19	11.52	PBPP; 28
5.20.19	12.5	PBPP; 28
9.6.19	12.68	PBPP; 30

*MBPP=Milk-based pediatric peptide