Dietary Therapy as Treatment for Pediatric Crohn Disease

Exclusive enteral nutrition (EEN) is a potential intervention for pediatric Crohn disease (CD). One such diet involves the specific carbohydrate diet (SCD) which excludes grain products, processed food, and dairy while adding in nuts, nut flour, fermented yogurt, and honey. Although the SCD has demonstrated clinical improvement of CD symptoms, minimal research is available regarding mucosal healing with this specific diet.

The authors of this study performed a retrospective study of all children with a diagnosis of pediatric CD seen at a tertiary children's hospital and treated with a SCD or a modified SCD (described as allowing foods such as rice, oats, potatoes, and quinoa). All children were less than 18 years of age, had been on a SCD or modified SCD for greater than 3 months, and had undergone an endoscopic examination to assess CD disease activity before and after using this specific dietary manipulation. Standard data such as age, sex, disease phenotype, and laboratory analyses were reviewed. Patients were excluded if they were on medications to treat CD during the time of dietary manipulation.

Seven pediatric patients met inclusion criteria, and they had an average age of 10 ± 2.6 years with a mean disease duration of 1.2 ± 1.7 years. The average age of starting SCD or a modified SCD was 11 ± 3.4 years. No patient had persistent abdominal pain, diarrhea, rectal bleeding, or weight loss during their time on a SCD or modified SCD. No changes were noted regarding height and weight *z* scores before starting and while continuing with the dietary intervention. Laboratory testing, including albumin, hematocrit, and C-reactive protein were normal in 5 of the 7 children just before or at the time of repeat endoscopy while on a SCD or modified SCD. Multiple fecal calprotectin levels were checked in 5 of the 7 patients while on dietary modification, and all fecal calprotectin levels were elevated. Interestingly, repeat upper endoscopy and ileocolonoscopy examinations demonstrated continued disease activity in all patients although some patients had diminished disease activity while others had worsening activity.

This study is small, retrospective, and preliminary, but it does indicate that use of the SCD and modified SCD may improve patient symptoms. However, the continuation of disease activity noted by fecal calprotectin and repeat endoscopy is discouraging, and larger studies are needed to see if certain subsets of pediatric patients with CD would benefit from use of the SCD or modified SCD.

Wahbeh G, Ward B, Lee D, Giefer M, Suskind D. Lack of mucosal healing from modified specific carbohydrate diet in pediatric patients with Crohn disease. Journal of Pediatric Gastroenterology and Nutriton. 2017; 65: 289-292.

Probiotics and Child Care Facilities

Children in childcare facilities (such as "daycare") have an increased risk of gastrointestinal infections due to exposure to other sick children. Probiotics can be used to potentially alter the intestinal microbiome, and the authors of this study examined the effect of probiotic use in preventing gastrointestinal and respiratory infections in young children attending childcare in Denmark. Children between 8 to 14 months of age were randomly assigned placebo or probiotics for a 6-month treatment period (August through December). The compounded probiotic regimen that was utilized consisted of *Bifidobacterium animalis* subsp *lactis* (BB-12) and *Lactobacillus rhamnosus* (LGG) at a dose of 10^9 colony-forming units given orally daily. Baseline measurements included household characteristics (parental education, household pets, household smoking, etc.) and history of infant illnesses prior to enrollment. Parents were supplied with monthly questionnaires evaluating infant illnesses while on study medication, including number of days of childcare missed due to illness, number of infections diagnosed by a physician, and the number of work days missed by a parent due to child illness.

A total of 290 infants were evenly divided into groups either receiving the probiotic regimen or placebo. No significant difference existed between groups regarding household characteristics, anthropometrics, and breastfeeding percentage except for a higher percentage of infants diagnosed with upper respiratory tract infections in the probiotic use group prior to enrollment (the difference was not significant). All infants started in childcare facilities at a median of 12 days of starting the intervention, and the average age of starting childcare was 10.6 months. Median medication compliance in both arms was 97%. There was no significant difference in days absent from childcare in infants receiving either placebo or the probiotic regimen, and there was no difference noted between groups regarding infections diagnosed by a physician or workdays missed by parents. No adverse events occurred during the study.

Thus, this specific probiotic regimen did not reduce infections in a childcare/daycare setting. The authors state that parents were only supposed to note infections diagnosed by a physician, so non-physician diagnosed infections theoretically could have been over-reported by parents; however, the compliance rate in this study was very high suggesting the results are valid.

Laursen R, Lamkjaer A, Ritz C, Hauger H, Michaelsen K, Molgaard C. Probiotics and child care absence due to infections: a randomized controlled trial. Pediatrics. 2017; 140: pii: e20170735

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Answers to this month's crossword puzzle:

1 G	A	2 S	T	3 R	O	4 P	A	5 R	E	6 S	I	7 S	■	8 D
L	■	U	■	I	■	O	■	I	■	C	■	T	■	U
9 Y	E	L	L	O	10 W	S	■	11 P	L	A	C	E	B	O
C	■	F	■	■	12 E	O	13 N	■	■	N	■	R	■	D
14 E	15 P	I	T	16 H	E	L	I	17 A	18 L	■	19 D	O	S	E
20 M	I	D	■	21 I	P	O	■	22 B	A	G	■	L	■	N
23 I	T	E	■	24 D	I	G	25 E	S	T	■	■	■	26 C	A
C	■	■	27 K	E	N	Y	A	■	■	28 A	■	29 N	■	L
■	30 A	G	E	■	G	■	31 R	E	G	I	M	E	N	■
32 M	I	■	33 E	34 H	■	35 S	■	■	■	R	■	C	■	36 A
37 U	R	38 I	N	E	■	39 T	A	40 P	E	W	O	R	M	S
S	■	S	■	R	■	A	■	R	■	A	■	O	■	P
41 C	O	L	O	N	O	S	C	O	P	Y	■	42 S	43 E	E
L	■	E	■	I	■	I	■	T	■	■	44 M	I	S	C
E	■	45 T	R	A	N	S	P	O	S	O	N	S	■	T