ABSTRACT

Chronic Nonspecific Diarrhea

Carbohydrate Malabsorption Following Fruit Juice Ingestion in Young Children. Hyams JS, Etienne NL, Leichtner AM, Theuer RC. Pediatrics. 1988;82:64-68

Chronic nonspecific diarrhea, defined as diarrhea of longer than 3 weeks' duration in the absence of failure to thrive, malabsorption, and enteric infection, is the most prevalent form of chronic diarrhea in older infants and toddlers. The four abstracted papers demonstrate that certain dietary practices are causally related to chronic nonspecific diarrhea.

Following their observation that the high-fat diet necessary for fat absorption studies often cured chronic nonspecific diarrhea, Cohen et al examined the fat content of the diets of 44 children who had chronic nonspecific diarrhea. As a group, the 44 children had a significantly lower fat intake than an age-matched group of 10 children who had diarrhea attributable to other causes. The children who had chronic nonspecific diarrhea were subdivided into groups based on dietary fat intake. Twenty-nine children had a low-fat diet (defined as <27% of total caloric intake as fat), while 15 had an adequate dietary fat intake. Following institution of a higher-fat diet (4 to 6 g/kg per day), all 29 children receiving a low-fat diet improved. An additional eight children who initially had an adequate fat intake also improved after an increase of dietary fat intake.

Greene and Gishan examined the role of fluid intake in a group of 40 children who had chronic nonspecific diarrhea. Children with very low fat intake were excluded. Eighteen children had fluid intakes (not including milk, soups, or semi-solid foods) of >150 mm^3/kg per day. In all 18 children, chronic nonspecific diarrhea developed following an acute infectious process. Many of these children had been taking oral electrolyte solutions for longer than 1 mo. Parents of these children were advised to reduce the child's fluid intake to <90 mm^3/kg per day. No other dietary instructions were given. Following this dietary change, stool frequency decreased in all 18 children at 2- and 6-wk follow-up visits.

Apple juice has been demonstrated to cause chronic nonspecific diarrhea in five toddlers with normal fat and fluid intakes by Hyams and Leichtner. Their apple juice intake varied from 240 to 360 mm^3 per day. All five had prompt resolution of diarrhea upon withdrawal of apple juice from their diet. Breath hydrogen test following an apple juice challenge revealed carbohydrate malabsorption in all five.

In a subsequent paper, Hyams et al demonstrated that 5 to 8 oz of pear or apple juice can produce symptomatic carbohydrate malabsorption (diarrhea, cramps, bloating) in a substantial portion of children who have chronic nonspecific diarrhea. Healthy controls were found to be no different. Sorbitol, a nonabsorbed sugar alcohol naturally found in pear and apple juice, is likely to play a part in juice-related diarrhea.

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Comment: Clearly, chronic nonspecific diarrhea is a relatively benign entity for which the underlying etiology can be discovered with careful history taking and intervention by the pediatrician. This is not irritable bowel syndrome. Intake-related diarrhea is a remediable condition once parent and child are educated about the impact that excessive amounts of various fluids can have on their bowel pattern.

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