

Diet, Nutrition and Inflammatory Bowel Disease

Keith J. Benkov, MD

Children IBD Center Lecture Series December 10, 2003

Inflammatory bowel disease (IBD), as the name implies, is an inflammation of various parts of the gastrointestinal tract. Patients and families often make assumptions about diet and nutrition in IBD:

- Some aspect of the diet is producing the inflammation
- Changing the diet will improve IBD
- Some things are lacking in the diet due to IBD

However the facts are:

- There is no evidence that anything in the diet causes or contributes to IBD
- Paying attention to what you eat may reduce symptoms and possibly promote healing
- None of the current “recommended” diets for IBD have been scientifically proven
- No one likes special diets

The normal digestive process is a complicated interaction of ingestion, digestion and absorption. The digestive process begins in the mouth with the action of saliva and continues in the acid environment of the stomach. The small intestine is divided into different areas: the duodenum, the jejunum and the ileum. The small intestine is responsible for most of the absorptive process in the body. The large intestine, or colon, absorbs water and some electrolytes. Other organs in the body that contribute to the digestive process are the pancreas, which produces digestive enzymes and the liver which makes bile to help digest fat.

Having IBD can impact the digestive process. Malnutrition can be caused by:

- Poor intake of calories due to lack of appetite, which is associated with IBD and other chronic illnesses
- Loss of nutrients; Crohn’s disease, which often affects the small intestine, can lead to impaired absorption of foods and specific vitamins
- Increased need for extra calories due to chronic illness, inflammation, fever
- In UC, may get more diarrhea, not typically malabsorption

Children with IBD need special attention because they are still growing and IBD has the potential to interfere with growth and development.

No specific food or food allergies cause IBD

- No single food is thought to worsen inflammation
- Certain foods in certain children may increase symptoms (similar to IBS)
- No one single diet will help everyone with IBD

In IBD, absorption is affected by disease type and the location of the inflammation

- In UC intestinal absorption is normal

- In Crohn's Disease:

If more than 2 feet involved (not typical), can have significant fat malabsorption

If proximal small bowel (duodenum) involved (not typical), can malabsorb certain vitamins and minerals

If terminal ileum involved, can occasionally cause Vit. B12 and folate to be malabsorbed

Certain medications can also interfere with absorption or cause increased losses of certain vitamins and minerals:

- 5ASA - increase folate loss
- Antibiotics - increase iron and calcium losses
- Steroids - increase calcium loss

Children with IBD should aim for the same healthy diet that all children require:

- Focus should be on varied diet
- Limiting certain foods could have implications; in general, not necessary
- Anyone can have food intolerances; need to look at individual situation
- Actual food allergies are rare
- Food elimination decisions are based on food diary and rechallenging

Some dietary changes help when symptoms are active:

- Eat smaller meals more frequently
- Reduce the amount of grease or fried foods
- If lactose intolerant - limit the consumption of milk or milk products
- Restrict intake of certain high fiber foods

In MARKED narrowing of the small intestine, a low-fiber or special liquid diet may be suggested to minimize abdominal pain and other symptoms:

- Exclude raw fruits, vegetables, seeds, nuts and corn hulls
- Dietary adjustments are often temporary

Fast food and junk food are useful in the diet of children with IBD

- They may play a role in supplementing calories
- Often have beneficial nutrients

For Example: Pizza

cheese: calcium, protein, Vit. D

tomato sauce: Vit. A and C

Crust: B vitamins

Multivitamins are generally recommended for most children. Vitamins are very important to individuals in both health and disease. Children with IBD may develop certain vitamin deficiencies depending on their disease location:

- Ileum - may need Vit. B12 or folate
- Diffuse small bowel disease - may have fat malabsorption and lack fat soluble Vit. A, D,

E & K

Vitamins are big business. They are potentially toxic if not taken properly. Many claims are not substantiated and children often do not like taking pills. Vitamins are rarely covered by insurance plans

Certain minerals may be deficient in IBD:

Iron deficiency - common in both UC and Crohn's secondary to blood loss in the GI tract. The blood loss may be occult (hidden) or obvious. Iron may be easily supplemented by mouth, but may cause cramps and cause stool to turn black

Potassium and Magnesium deficiency - secondary to diarrhea or steroids

Trace minerals - zinc, copper, selenium, and manganese may be deficient with diarrhea or malnutrition

Calcium deficiency

- calcium deficiency is present in the general population
- more significant in IBD due to avoidance of dairy products
- steroid use causes increased losses, as well as absorption from bones

Treatment:

- Avoid steroids whenever possible
- Bone densitometry
- supplementation of calcium up to 1500mg daily
- Vitamin D supplementation
- Questionable role for drugs such as alendronate sodium (Fosamax®) and calcitonin

Some children with IBD may have difficulty meeting their caloric requirements due to decreased intake or increased needs. These children may require nutritional support. There are three major forms of nutritional supplementation:

- Oral Supplementation with supplemental calories or special formulas

- Enteral Tube Feedings

Generally done overnight

Nasogastric tube - usually involves learning to pass the tube via the nose to the stomach

Gastrostomy tube

If symptoms are severe, may not tolerate tube feedings

- Parenteral Feedings (intravenous) solutions usually given through a central catheter