



Optimizing Metabolism

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Crohn's Disease: Nutritional Approaches to Maintaining Remission

Introduction

Crohn's disease is an autoimmune disease caused by intricate interaction among genetics, the immune system, microbes, and environmental factors, such as toxin exposure and nutrition. To what extent the last variable, nutrition, is a causative agent is debated, often at length. This column takes a different approach. Whether nutrition is a causative agent or not, it warrants special consideration when Crohn's disease is present.

Diagnose Food Allergens

One component of Crohn's disease is unremitting inflammation of the intestinal tract. Food allergies also cause intestinal inflammation and can exacerbate pre-existing Crohn's disease. Food allergies are commonly found among Crohn's patients and can be tested:

- Radioadsorbant (RAST) testing diagnoses type I, IgE-mediated, food allergies. Type I allergies are those that cause hives and anaphylaxis.
- Type II allergy is sometimes called delayed allergy involving complement fixation with IgG, IgM, and IgA. The immunoglobulin G enzyme-linked immunosorbent assay (IgG ELISA) is generally used to diagnose type II allergies.
- Type III allergies are sometimes referred to as serum sickness or arteritis and involve IgM anti-IgG antigen complexes. Lymphocyte response assay (LRA) by ELISA/ACT can diagnose type III allergies.
- Type IV allergies are T-cell mediated, resulting from what is sometimes referred to as an imbalance in Th1 and Th2. The Memory Lymphocyte ImmunoStimulation Assay (MELISA) and LRA by ELISA/ACT can diagnose type IV allergies to food.

Diagnostic testing is important for several reasons:

- Elimination diet is of limited diagnostic helpfulness when disease is present.
- Patients tend to know they have food allergies and will do their own guesswork.
- Without testing for required food restrictions, people can develop unnecessarily restrictive diets, which tend to worsen nutrition.
- Food allergies can resolve as Crohn's disease goes into remission. Retesting can monitor this and avoid unnecessary food restriction.

Analyze Fat and Use Both Dietary Fats and Supplement Fats Strategically

Crohn's disease interferes with the intestinal tract's ability to digest and absorb nutrients. Even when the diet contains optimal fats, the body might not be taking in sufficient amounts and ratios of fats and fat-soluble vitamins. Laboratory analysis of packed red blood cells offers a two-week snapshot of the body's fatty acids. The test analyzes the fatty acid content of the bilipid cell membranes. The red cell membrane is dynamic; new fatty acid tails are being replaced constantly. That's why the analysis provides a window of a couple weeks rather than the three-month lifespan of the red blood cell.

Test results guide clinical recommendations. For example, omega-3 fatty acids may be required in supplemental doses to reduce inflammation and provide sufficient EPA and DHA. Tests that show *trans* fats and too many saturated animal fats should prompt a recommendation for a dietary oil change. Testing can advise whether gamma linoleic acid (GLA) is deficient. When enzyme pathways for GLA synthesis are blocked, additional GLA may be needed even though it is an omega-6 fat with pro-inflammatory metabolites.

Fat-soluble vitamins may also be deficient because of combined low dietary intake and poor absorption. Low levels of vitamins A, D (not really a vitamin but a prohormone), E (all forms), and K suggest that other health-promoting, fat-soluble nutrients such as carotene, resveratrol, lycopene, and lutein are also low. Dietary interventions can increase these nutrients known to reduce inflammation.

Reducing Recurrence Risk

Toxin exposures can contribute to Crohn's disease. A toxicology history and relevant testing is important, foremost to avoid further exposure and also to help the body safely remove toxic exposure. Patients benefit from cooking with herbs and spices. Curcumin found in turmeric has demonstrated anti-inflammatory benefit. Only in the case of food allergies should spicy foods be eliminated. Probiotics in the diet and supplements also should be considered, along with fiber-rich foods known as prebiotics.

Glutamine is a nonessential amino acid that is taken up by cells lining the intestinal tract. In Crohn's disease, the uptake of glutamine may be impaired, and the need for glutamine may be greater. Glutamine supplementation may reduce disease recurrence. It's also possible to increase glutamine intake in the diet. As an amino acid, glutamine is found in meat, but it is also found in high concentrations in cabbage and red beets. These vegetables are also rich in prebiotics. Pickling helps digest the vegetables. In other words, sauerkraut, kim chee, and borscht really do help "settle the stomach."

Use Nutrition to Reduce Risk Factors – Colorectal Cancer and Osteoporosis

Do not eat charbroiled red meat and processed sandwich meats.

Crohn's disease increases risk for developing colorectal cancer. Since Crohn's disease causes blood loss and perhaps inadequate dietary protein, red meat is sometimes recommended. The appropriateness of that recommendation may vary from patient to patient. However, what is imperative to anyone with Crohn's disease is to prepare meat safely. Meat should not be charbroiled, cooked on high heat such as an outdoor barbeque, smoked, or highly processed, such as sausages or sandwich meats. Such food preparation techniques allow carcinogens to form on the food, thereby further increasing colorectal cancer risk.

Maintain a vitamin D level of at least 32 ng/ml.

Crohn's disease increases risk for osteoporosis. There are several reasons for this – medication side effects, poor absorption of mineral and protein, low peak bone mass from disease-related malnutrition in one's teens and twenties, and inadequate vitamin D. Since one of vitamin D's primary roles is to facilitate absorption of calcium in the intestines, maintaining year-round optimal vitamin D levels is especially important in patients with Crohn's disease.

A Patient Story: Keeping Crohn's Disease in the Ever-More-Distant Past

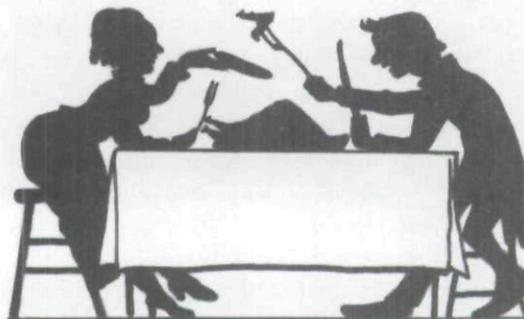
Deborah Ray (www.healthymediaproductions.com) shared with me her story of overcoming Crohn's disease. She had full-blown gastrointestinal disease along with ileitis, diverticulitis, and, as the gastroenterologist put it, as many polyps as a 70-year old, even though she was 22 at the time. She also had symptoms beyond the intestinal tract, such as arthritis and *erythema nodosum* (a nodular dermatitis of subcutaneous fat).

When it came to food and nutrition, her gastroenterologist's advice was, "Eat what you can tolerate." This general advice was difficult to follow, because no meals agreed with her, and the medication side effects were also intolerable. And there was the imminent possibility of bowel resection. Deborah was a medical technologist, and she was going to use her knowledge to find a solution.

Two diagnostic tests helped guide Deborah back to health – hair analysis and food allergy testing. Her mercury level on hair analysis exceeded the chart. She had been exposed through her work as a laboratory technician, performing manual arterial blood gases in the 1970s, a few years before her symptoms began. She may have been more vulnerable to this occupation exposure because of altered gut flora from years of antibiotics to treat cystic acne. Avoiding further exposure to mercury, giving her body what it needed to chaperon mercury out the door, and restoring her gut flora were pivotal for Deborah. Her first food allergy testing suggested she was allergic to most foods. As she eliminated the allergic foods and used nutritional and alternative medicine approaches for intestinal healing, subsequent food allergy tests showed fewer and fewer allergic foods.

Thirteen years later, her work-up required for life insurance gave her a clean bill of health with no evidence of polyps, diverticulitis, or Crohn's disease. She has now been in remission for more than 30 years. An illness that had been chronic and infectious now illustrates Deborah's courage as she helps others find healing answers, especially through talk radio.

On a final note, *Food and Nutrients in Disease Management* (Kohlstadt I., Ed. Boca Raton, Florida: CRC Press: February 2009) will offer readers more information on Crohn's disease, food allergies, fatty acid testing, colorectal cancer prevention, mercury, and curcumin. ♦



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