

## Ulcerative Colitis; Diagnosis and Management

So you, or maybe someone you love, have been diagnosed with Ulcerative Colitis and your mind is filled with questions: Is this something that I contracted or did I have a genetic predisposition? Does my lifestyle factor into my diagnosis? Did I do something wrong? Will this get progressively worse as I age? Can it be cured? How can I manage my symptoms, both physical and emotional? How common is this condition? And who knows the most to help me sift through all the information?

Fortunately, you are not alone. The annual incidence rate, indicating how many people are newly diagnosed with Ulcerative Colitis each year, is between 10.4 and 12 cases per 100,000 people. In the United States, there are anywhere between 35-100 people per 100,000 living with Ulcerative Colitis, so the prevalence is approximately 0.05% of the population (Le, 2010). That may not seem like much, but it is estimated that as many as 1 million people have been diagnosed (CCFA, 2009). The sections that follow synthesize current research on Ulcerative Colitis and are designed to help you to understand the disease and how you might manage the symptoms. Traditional medical methods along with alternative therapies are explored and near the end of the paper we have presented some ideas as possible next steps in your healing process. During this time of confusion, as Francis Bacon stated, "Knowledge is power."

## Definition, Differentiation and Description

Ulcerative Colitis (UC) and Crohn's Disease (CD) are the two forms of Inflammatory Bowel Disease (IBD). Though the two diseases are similar in symptomatology, CD affects any

part of the entire digestive tract (and may have patches of unaffected parts throughout) while UC affects only the colon and possibly the rectum. On a microscopic level, CD can also affect the entire thickness of the tubular wall of the digestive system while UC only affects the inner most layer, by way of ulcers and open sores, of the mucosal lining. A heightened inflammatory response exacerbates these wounds in the mucosal lining and causes symptoms noticeable to the individual. The most common symptoms of IBD are: Blood or mucus in stool, diarrhea anywhere between 4 - 10 times per day, abdominal pain, and fatigue due to loss of blood/nutrients. Further categorizations of Ulcerative Colitis can be classified as Ulcerative Proctitis (affecting only the lower part of the colon) Left-Sided Colitis (involving the sigmoid or pelvic colon with or without involvement of the descending colon) or Pancolitis (actually involving the entire colon) (Baumgart, & Sandborn, 2007).

As mentioned, there are many similarities in symptomatology among the two subsets of Inflammatory Bowel Disease. Colorectal cancer, parasites and other infections can also cause similar symptoms and need be ruled out before testing to diagnose either form of IBD (Head & Jurenka, 2003). Despite the symptom similarities, certain proposed treatment options can significantly vary therefore testing for an accurate diagnosis is advantageous to receive the most effective treatment regime. (Rakel, 2007) For example, in Crohn's Disease if there is inflammation of the small intestine, nutrient absorption (much of which happens in the small intestine) is compromised, often rendering the host malnourished. Specific supplements might therefore be prescribed based on nutrient deficiencies. An inflamed colon, as is seen with Ulcerative Colitis, does not recycle water properly and diarrhea can be severe (CCFA, 2009). Consumption of more fluids would be suggested in this case.

Once other factors are ruled out, it is important to regularly see a gastroenterologist for endoscopic examinations to help monitor the progression (if any) of the disease and appropriate drug therapy (Rakel, 2007).

### Causes

The etiology of Ulcerative Colitis is still unknown. Our medical model has long attributed disease to an external infectious pathogen as was true of many diseases in the early 1900s: polio, cholera, malaria, measles etc. So it is no surprise that science searched for years for the infectious agent responsible for UC (and IBD in general for that matter). But when myriad potential pathogens were found (viruses, bacteria, yeast etc.) the research turned to the individual's personal immune response. According to a recent article in the *Israel Medical Association Journal*;

The association between infection and autoimmunity, the first leading to the latter by the mechanism of molecular mimicry... is well established. The role of infection may be primary, the infection being a prerequisite for disease initiation in a genetically susceptible host, or secondary, where the causation is vague and is suggested by an excess of positive serology for a certain pathogen... (Lidar, M., Langevitz, P., & Shoenfeld, Y., 2009).

This simply means that antigens in the environment might either directly cause the inflammatory response exhibited in Ulcerative Colitis or that the immune system is overreacting to what might be an insignificant pathogen in another individual's body. Additionally, the

authors state "...the paradigm has shifted from infectious agents to loss of immune tolerance to commensal enteric bacteria." The term "commensal enteric bacteria" refers to normal microorganisms that make up the natural gut flora. Persons with UC are often found to have an increased number of aggressive bacteria, such as Bacteroides and E. Coli in the gut while having fewer of the "good" or protective bacteria such as lactobacilli and bifidobacteria (Lidar, M., Langevitz, P., & Shoenfeld, Y., 2009). (Prebiotics and probiotics can play a role in helping to restore the gut flora and are further mentioned in the "Nutrition and Supplements" section.)

This is similar in concept to Stephen Paget's "seed and soil hypothesis," where the medical community debated whether the cause of disease was the "seed" (environmental pathogen) or the "soil" (the individual's own genetic makeup rendering their ability to or not to adequately combat the invading pathogen). Most doctors seem to believe the cause of UC to be a combination of both the seed and the soil; both an outside agent and the individual's overactive immune response cause the body to attack the colon's innermost lining.

An additional hypothetical contributor to the rise in Inflammatory Bowel Disease in western cultures in particular, is increased antibiotic use which kills many "indigenous" bacteria, beneficial or not. Ultimately, it seems a combination of factors contributes to the disease.

On the one hand, infection with a pathogenic organism could serve as an environmental trigger to initiate an inflammatory response, a response that may be perpetuated in a susceptible host by commensal microbial antigens. On the other hand, host genetic susceptibility, in the form of a defective mucosal barrier function, can lead to enhanced exposure to luminal bacteria. Either process can

lead to an overly aggressive T cell response to normal bacteria, culminating in tissue damage. It seems, therefore, that it is the combined effect of genetic susceptibility with microbial exposure, in addition to increased antibiotic use and improved hygiene, that alters the balance of beneficial versus aggressive microbial species, that perpetuates the pathophysiology of IBD (Ibid.).

The Crohn's & Colitis Foundation of America (CCFA) describes the immune systems of those with UC as having originally "switched on" to combat a true pathogen, but then continues to mistake food, bacteria or other normal intestinal materials as pathogens themselves and seeks to rid them from the body. Additionally, the body sends additional white blood cells into the intestinal lining which accounts for the chronic inflammation (CCFA, 2009). The immune response is understood to be the culprit for the symptoms of UC, even if the root cause of the disease itself is still unknown. Patients can learn what causes their individual immune system to overreact and in doing so, lessen their symptoms (sometimes having permanent remission from these symptoms) even if the disease is never "cured." By understanding what causes each *individual's* inflammatory process, practitioners can work to lessen the symptoms of the disease in a patient-specific manner.

### Traditional and Alternative Therapies

The main role of drug therapy for UC is to regulate the immune system's attack on the mucosal lining of the colon. This is typically done by suppressing the immune response through the use of immunosuppressant drugs or by keeping the inflammatory response down with anti-inflammatory drugs. Suppressing the immune response from attacking the colon allows the

colon time to heal and can give relief from the symptoms of diarrhea, rectal bleeding and abdominal pain (CCFA, 2009). Drug therapies are very important in managing the symptoms of Ulcerative Colitis but can be most effective when used in combination with alternative therapies.

David Rakel, author of the thorough text Integrative Medicine, stresses “The main role of the integrative practitioner is to enhance conventional treatment,” thereby suggesting that alternative therapies be used to augment the traditionally prescribed medicine regime (Rakel, 2009).

Symptoms of Ulcerative Colitis can be treated by many types of integrative practitioners. Patients may wish to look into Traditional Chinese Medicine (including acupuncture), Ayurveda, Homeopathy, Chiropractic or Psychological work to help in their healing process.

Dr. Kenda Burke, Chiropractor and Certified Doula, states that when we become overly stressed, our bodies store this stress physiologically and when these patterns persist, the body begins to exhibit symptoms. “In terms of a digestive disorder like Ulcerative colitis, our body is letting us know that the parasympathetic and sympathetic activity are seriously out of balance...An adjustment to the bones and soft connective tissue will relieve this pressure and the nervous system messages can begin to coordinate more easily with the actual digestive tract. When the body is addressed as a whole entity a true sense of balance can begin to unfold” (Burke, 2010).

### Nutrition and Supplemental Recommendations

Unfortunately, the CCFA notes that there are no specific foods that contribute directly to the symptomatology of Ulcerative Colitis (CCFA, 2009). Since UC is restricted to the colon, where little nutrient absorption occurs, there is less of a risk for malnutrition than for those with CD (since this disease might well affect the stomach or small intestine where nutrient absorption occurs.)

Yet many beneficial studies have still been done on the effects of particular foods for those suffering from Ulcerative Colitis. A brief overview of these follows, but it is important to note that the best way to decide whether a certain substance affects the symptomatology of the patient is through an elimination diet whereby the individual can experience the effects for themselves. (A discussion on how to do an elimination diet occurs in a later section of this paper.) Ultimately, whether a particular substance negatively affects the patient really depends on the individual's personal constitution.

Some studies report that patients suffering from IBD have increased rates of lactase non-persistence (LNP). Many patients voluntarily choose to remove dairy foods from their diets after being diagnosed in an effort to combat some of the symptoms. Additionally, since the symptoms of LNP and IBD are similar, it is important to find, through elimination, if either the disease or the LNP status of the individual exacerbates their symptoms (Shrier, 2008). However, it is important to note that there is an epidemiological and pathogenetic link between both forms of IBD and colorectal cancer, and studies have shown that calcium and dairy food intake were actually inversely related to the risk for colon cancer, thereby supporting the benefits of a diet including dairy foods (Larsson et al, 2006).

The Specific Carbohydrate Diet (SCD) is often recommended for those diagnosed with

Crohn's Disease, but can at times bring relief to some Ulcerative Colitis sufferers. The SCD allows the consumption of carbohydrates that are monosaccharides (have a single molecule structure) which allow them to be more easily absorbed in the intestinal wall. Complex carbohydrates (disaccharides and polysaccharides) are not allowed as they can contribute to the inflammation of the intestinal wall. The diet helps to rid the gut of harmful bacteria and restore the healthy microorganism balance (Rakel, 2009).

David Rakel points out that the most recent discovery concerning dietary treatments for UC includes a look at the short-chain fatty acids (butyric acid in particular) as they nourish the colonic epithelium, lower pH (which encourages the growth of protective bacteria *Lactobacillus* and *Bifidobacterium*), and inhibit the growth of potential pathogens. Butyric acid also has anti-inflammatory effects. (Rakel, 2006). The problem is that in patients with Ulcerative Colitis, sulfides produced by their flora actually inhibit the beneficial effects of their butyrate.

Consequently, a new recommendation for trial dietary changes is a low sulfur diet. Meat (and therefore protein) produce sulfides, therefore beef, eggs, port, cheese, whole milk, ice cream, mayonnaise, soy milk, mineral water, nuts, cruciferous vegetables, and sulfated alcohol should be avoided (Rakel, 2009). A further discussion on how these diets can be useful is found in the "Collaboration is Where to Begin" section of this paper.

It is well known that switching from a diet high in refined carbohydrates and processed sugars to one with whole foods low in glycemic index promotes health and vitality and can sometimes even reverse the effects of many chronic diseases. It never hurts to switch to a diet of whole foods in an attempt to combat the symptoms of chronic ailments.

Though it is true that patients with Crohn's Disease are more likely to have food

sensitivities than those with Ulcerative Colitis (due to the fact that the inflammation can be in other parts of the digestive tract than only the colon), it is still helpful to rule out any personal sensitivities and try any treatments that might alleviate the symptoms (Rakel, 2007).

“Hypersensitivity to indigenous gut flora, is significant for the integrative therapies because of the influence of diet and dietary supplements on nutritional status, intestinal permeability, and the composition of the intestinal micro flora” (Rakel, 2009, 154). Suggested supplements and botanicals in descending order of proven effectiveness for UC include Folic Acid, Fiber, Calcium, Fish oils, N-Acetylglucosamine, Chromium, Vitamin B (6 and 12), Selenium, Zinc, Vitamin D, Aloe Vera gel, Boswellia, and *S. boulardii* (Rakel, 2006). The use of prebiotics and probiotics to restore a natural gut flora can be beneficial as dysbiosis (an overgrowth of harmful bacteria in the colon) can be common for those with IBD.

A radical approach to the regulation of Ulcerative Colitis symptoms is the use of nicotine. An episode of the hit medical TV series “House” showcased Dr. House prescribing for his patient with Inflammatory Bowel Disease “one (cigarette) twice a day, no more, no less. Studies have shown that cigarette smoking is one of the most effective ways to control inflammatory bowel.” The patient questions this by asking “Isn't it addictive and dangerous?” to which the Doctor replies, “Pretty much all the drugs I prescribe are addictive and dangerous. The difference with this one is that it's completely legal.”

Witty writing aside, a study presented in the *New England Journal of Medicine* concludes that the addition of nicotine to conventional therapy of Ulcerative Colitis improves symptoms (Pullan, 1994). It is hypothesized that nicotine beneficially affects the mucosal lining of the colon thereby improving gut motility. However, just as differences in diets were mentioned for

Ulcerative Colitis and Crohn's Disease, studies for Crohn's Disease show that nicotine actually exacerbates the condition (Pullan, 1994). This is one more important reason to monitor the disease to ensure proper diagnosis and use effective treatments.

### Functional Medicine

Functional Medicine (FM) is based on the practice of medicine in which the practitioner focus on the underlying causes of the chronic disease (by way of the "core clinical imbalances" recognized by the field) instead of merely looking to treat the symptoms. As discussed earlier however, since there is no known cause for Ulcerative Colitis, the purpose of any physician would be to look at the underlying causes that increase the *inflammation* in particular. Of the core imbalances, inflammation clearly plays a key role in the symptomatology of UC. (Additional important imbalances to address with an FM practitioner would include: Digestive, detoxification, and oxidation-reduction.)

A Functional Medicine practitioner would recognize the biochemical individuality of each patient and help analyze how this individuality might play a role in the personal manifestations of the disease. Also, they should consider the dynamic balance of internal (physiological) and external (environmental) factors. FM practitioners understand that the inner workings of the bodily systems are interconnected in nature and that changing facets of diet for example, can correct hormonal disturbances or that getting rid of environmental toxins can lessen the over active immune response. Perhaps most importantly, a Functional Medicine practitioner will acknowledge multiple ways of healing, and can help support the work of other integrative practitioners in the treatment of Ulcerative Colitis (IFM, 2010).

## Collaboration is Where to Begin

“Collaborative treatment is defined as care that strengthens and supports self-care in chronic illness while ensuring that effective medical...and health maintenance interventions take place” (Von Korff, 1997).

So now that you’ve been exposed to a lot of information, what are the next steps?

Below we have proposed what to do now that you have a greater understanding of your diagnosis and the options you have. But remember, just as there are multiple speculated causes for Ulcerative Collates, so are there many ways to gain relief from the symptoms. The only person who can really know what will work for you and your relief, is YOU. So feel empowered to explore any healing necessary, but here are some places to start.

1) Continue to see your doctor and gastroenterologist to help monitor your disease and drug therapy. Perhaps it is time to take a few other factors into account. You will want to make sure that any physicians or healers you intended to consult regarding your diagnosis recognize the important of adjunct and collaborative therapies.

2) Do a food elimination diet to rule out any food allergies or sensitivities that might exacerbate your symptoms. This can be done with a nutritionist, health coach or if you feel up to it, you can absolutely do it own you own. Dairy and gluten are hot topic foods, suspected to cause some people digestive issues (even for those without IBD.) A full elimination diet includes these in the most common (or “sensitive seven”) food sensitivities: Dairy, gluten, sugar, corn, soy, eggs, and peanuts. Simply start by eliminating each of the foods to which you wish to determine your sensitivity in consecutive three to five day increments. After all foods

have been eliminated, add each one back into your diet in the same time frame. For example, if you first eliminate dairy, do this for three days and move on to sugar while still keeping dairy eliminated as well. When it comes time to add the foods back into your diet, you will be able to see the symptoms much more clearly having given your body extended breaks from each of the potential sensitive foods.

If you feel so compelled, try the Specific Carbohydrate Diet (sticking only to short-chain fatty acids for your fat intake) or a low sulfur diet (consuming no high protein foods which heighten the body's sulfur content) mentioned in the "Nutrition" section of this paper. Remember that no one diet has been proven to work for everyone, but you have the power to find out what works for your body and your Ulcerative Colitis. No two people's constitutions are the same; specifics depend on the individual.

3) If you find that you do not have enough time to discuss options with your doctor, consider working with a health coach who can help you through the process. Health coaches are able to help you sift through information about anti-inflammatory vs. immunosuppressant drugs, the best place to purchase supplements, how to approach the nutrition component to your therapy, find alternative practitioners, or work with you through the emotional components of being diagnosed with Ulcerative Colitis. Additionally, some health coaches specialized in the analysis of contributory environmental factors like specific pathogens in your living or work environment, industrial pollutants, and electromagnetic outputs from computers or cell phone towers.

4) In the Functional Medicine Model, it is suggested that a non-toxic dentist be part of an efficient chronic care team. This simply indicates a dentist who recognizes that both the

removal of environmental toxins plays a part in dental hygiene, and that the “mouth flora,” similar in essence to the gut flora, is so important to the integrative treatment of UC.

5) Finding a compounding pharmacist and/or herbalist with a working knowledge of all that is available to aid you in your healing journey is also suggested by the Institute for Functional Medicine (Jones, 2010). A compounding pharmacist can mix custom medications to fit a specific patient's needs.

6) Take some time to consider your physical activity levels. Moderate exercise is helpful to improve general health, but since signs of oxidative stress have been found in the mucosal lining of Ulcerative Colitis patients, it is good to exercise in moderation (Leeuwenburgh & Heinecke, 2001). (Functional Medicine also acknowledges the role that oxidative stress has on any chronic condition and should be addressed with any FM practitioner you may consult.) Make time to exercise lightly daily.

7) Also, consider your emotional well-being both around the diagnosis of this chronic disease, and in general. Many people with UC are able to live their lives without too much alteration because of their condition. In fact, the CCFA states that half of those diagnosed with UC do not find their symptoms to affect their daily routine (CCFA, 2009). But taking time to consider the mental component, how the clutter and stress in your mind affects your body and your disease, is worth exploring. You can talk with any of your practitioners about the mind-body connection and its role in chronic disease and about their suggestions for dealing with it. Even the pharmaceutical company which makes Asacol (a drug for Ulcerative colitis) devotes a section of their website to “Cope[ing] with Stress” acknowledging the role emotions play in the symptomatic treatment of Ulcerative Colitis (Asacol, 2010).

## Conclusion

Despite your diagnosis, you have options. Many people have learned how to keep their symptoms under control such that life can continue on as normally as possible. Though there is no cure, permanent symptomatic relief can be found through a combination of traditional drug and alternative therapies. It is especially important to have a team of practitioners who respect the collective therapies you are considering. Most of all, remember that you have the ability to know what works best for your body. And as with most chronic conditions, the best treatment to this disease, always “depends on the individual” (Desai, 2010).

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