

## Case Study concerning Ulcerative Colitis with Literature Review

**Type:** Case Study

**Received:** August 05, 2024

**Published:** August 16, 2024

**Christina Rahm\***

*DRC VENTURES LLC, USA*

**\*Corresponding Author:** Christina Rahm, DRC VENTURES LLC, USA.

**Citation:**

Christina Rahm. "Case Study concerning Ulcerative Colitis with Literature Review". PriMera Scientific Surgical Research and Practice 4.3 (2024): 62-66.

**Copyright:**

© 2024 Christina Rahm. This is an open-access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

According to Zhu et al. (2021), Medicine and Health encloses the study of the prevention, care, and tendering of diseases as well as the examination of physical and mental well-being. Medicines can help control things like high blood pressure or high cholesterol. These drugs cannot cure the hidden problems, but they can help prevent some of its body damaging effects overtime among important medicines are immunization. A lot of medicines are swallowed, either as pills or a liquid. Once the medicine is swallowed, the digestive juice in the stomach breaks it down, and the medicine can progress into the bloodstream. Blood then carries it to other parts of your body where the medicines work best.

### ***Symptoms of Ulcerative Colitis***

Mouth sores, joint pain, red pain eyes, skin rashes, liver diseases, diarrhea, and bloody stools are two most common initial symptoms of Ulcerative Colitis. People often experience abdominal or rectal pain, weight loss, fever, loose and urgent bowel movements, frequent need to empty the bowels and fatigue. Ulcerative Colitis begins when your immune system makes a mistake. Usually, it attacks the invaders in the body, like the common cold. But when you have Ulcerative Colitis the immune system deliberate food, good gut bacteria and the cells that line on the colon are the intruders.

### ***Diets that prevent Ulcerative Colitis***

Consume protein, soft and well-cooked meat, such as poultry, loss of sodium and low fat meats, well cooked egg, tofu, smooth nut and seed butter like peanuts, fruit juice with no pulp, cottage cheese, fish, pork, refined white bread (Ungaro et al., 2019).

### ***Foods that should be avoided with Ulcerative Colitis***

Whole grain cereals and loaves breads are difficult to digest and lead to flare ups, nuts and seeds, unhealthy fats, caffeine, alcohol, certain vegetables, spicy foods, foods in high fiber, foods that have sulfur, carbonated drinks (Alsoudet al., 2021).

### ***Types of medicines used to treat Ulcerative Colitis and their aims***

***Aminosalicylates:*** They are medicines that permit to lessen inflammation. It allows damaged tissues to heal. They are usually the first treatment option for mild moderate Ulcerative Colitis (Tripathi & Feuerstei, 2019). They can also be used as short-term treatment for flare-ups to maintain remission. Aminosalicylates can be taken in the following: as the suppository-where capsule is inserted into the bottom where it dissolves, orally-by swallowing a capsule or a tablet, through an enema-where fluid is pumped into the colon. However, these medicines rarely have side effects, but some people may

experience: Headache, a rash, feeling, tummy pain, rarely, diarrhea.

**Corticosteroids:** They are also a more powerful type of medicine used to lessen inflammation. They can be used instead of Aminosalicylate to treat flare –up if 5-ASAs alone are ineffective. 5-ASAs are administered orally, enema or suppository. Corticosteroids, 5-ASAs are not used as a long-term treatment to maintain remission because they can cause potentially serious side effects, like weakening of the bones and cloudy patches in the lens of the eye when used for a long time. Side effects of short –term steroid use can include: difficulty in sleeping, weight gain, mood changes becoming more irritable, increased appetite (Armuzzi, & Liguori 2021).

Immunosuppressants such as tacrolimus and azathioprine, are the medicines that reduce the activity of the immune system. They are usually given as tablets to treat the flare ups, or lessen remission if the symptoms have not responded to other medicines. Immunosuppressants can be virtual in treating Ulcerative Colitis, but they usually take two to three months to start working. The medicines can make you more endangered to infection, so it's important to report any signs of infection, such as sickness or high temperature, they can also be ready to lessen red blood cells, making you vulnerable to anemia. However, one needs regular blood tests and checkup of any other problems.

**Ciclosporin:** are the type of medicines that has similar work as immunosuppressant medicine they also lessen the activity of the immune system. It normally, works within a few days since it is more powerful than the medicines used to treat softer cases of Ulcerative Colitis. Ciclosporin –medicine is slowly given through a drip in an infusion and treatment will be usually continuous for about one week (Armuzzi, & Liguori, 2021). The side effects of intravenous cyclosporine include: diarrhea, swollen gums, feeling and being sick, excessive hair growth, uncontrollable shaking or trembling of part of the body, extreme tiredness. However, ciclosporin can also cause more serious complication, such as liver function, reduced kidney function, but one is monitored regularly during treatment to prove for signs of these.

**Biological:** Medicines are medicines that reduce inflammation of the intestine by targeting proteins the immune system uses to stimulate inflammation. They are used to treat adults with mild to severe Ulcerative Colitis. If some options are not working, some biologic medicine might be used to treat young people aged six to seventeen with severe ulcerative colitis. They are issued in hospital through a drip in the arm every four to twelve weeks, or as an injection for every one to four weeks. The treatment is given for eleven months unless the medicine is not working appropriately. Biologic medicines affect the immune system and can increase the risk of getting infection. Individuals can have any symptoms of a possible infection, such as coughing, sore on the throat, a high temperature.

**Tofacitinib:** Is a recently developed type of medicine for ulcerative colitis. It also works by choosing the immune system, but does this in a different way from other medicines. The medicines are advocated for people with mild to severe ulcerative colitis if biologics are not suitable. Therefore, this medicine is not advocated for use in pregnancy. Women should use reliable contraception when taking it, and for at least four weeks after finishing the course.

**Surgery:** when an individual has a particularly severe flare –up that is not responding to medicines, surgery may be an option. For ulcerative colitis, surgery involves permanently removing a colon. Once the colon is eliminated, the small intestine will be used to pass waste products out of the body instead of the colon. This can be achieved by creating: where the small intestine is diverted out of a hole made in a tummy. After the operation, the unique bags are placed over this opening to collect waste products. An ileoanal pouch is where the small intestines are used to generate an internal pouch that is then connected to the anus, allowing one to poop normally (Armuzzi, & Liguori 2021). Ileoanal pouches are extremely used because an external bag to collect waste products is not needed. After the large intestine is removed, ulcerative colitis cannot come back after the surgery.

The healthcare provider has to rule out other illnesses and diagnose ulcerative colitis in teenagers, children, and adults. After a physical checkup, the provider may order: Blood test, blood can show the infection of anemia. Anemia is a low level of iron in the blood.

It can mean that one is bleeding from the rectum or colon. Signs of tiny organisms that can live in a person's body and inflammation can appear in the poop. Imaging tests can also be used in screening the disease. Your healthcare provider may need a picture of a colon

and rectum; including a magnetic resonance imaging scan. Endoscopic tests: An endoscopic is a thin, flexible tube with a tiny camera (Kucharzik et al., 2020). Experts like doctors can slide the endoscope in through the anus to check the health of the rectum and anus. Common endoscopic tests include sigmoidoscopy and colonoscopy.

If an individual has the symptoms of ulcerative colitis, your regular healthcare provider will probably refer you to a specialist. A gastroenterologist, a doctor who specializes in the digestive system should oversee the care for adults. For young patients, a pediatric gastroenterologist who specializes in children should manage the care.

### ***How ulcerative colitis is treated***

Ulcerative colitis has no cure but treatments can calm the inflammation, help you feel better and get you back to your daily activities. Treatment also depends on the greatness and the individual, so treatment depends on each person's needs. However, providers manage the disease with medications. If the test describes infection that is causing problems, your healthcare provider will treat those hidden conditions and see whether it helps (Zhu et al., 2021). The goal of medications is to lessen and maintain remission, and to improve the quality of life for people with ulcerative colitis.

### ***Roles of diet and nutrition play in ulcerative colitis***

Diet does not cause the growth of ulcerative colitis nor can any special diet cure the diseases. However, the foods your child consumes may play a role in managing symptoms and broadening the time between flare-ups. Some foods may make symptoms worse and should be avoided, especially during flare-ups (Feagan et al., 2021). Foods that activate symptoms are different from person to person. To narrow down what foods affect you, keep track of what you feel afterward. Problem foods often include: Greasy foods, alcohol, carbonated beverages, high sugar foods and drinks, high-fiber foods.

In addition to the problem foods listed above, children, infants and teenagers can also experience issues with: salt, dairy products. Keep a careful eye contact on your child's diet and nutrition. The appetite may reduce during a flare up and they might not consume enough to stay healthy, and grow. Also, the inflammation caused by ulcerative colitis may keep their digestive tract from absorbing enough nutrients. It can also affect a child's health. In these cases, you may have to increase the amount of calories your child consumes. It's suitable to work with your provider and nutritionist to come up with a personalized diet plan if you or your child has ulcerative colitis.

### ***Complications of ulcerative colitis***

Ulcerative colitis raises the risk of developing colon cancer. The longer you have the disease, the higher your risk of colon cancer. Because of this increased risk, the doctor will check for cancer when you receive your diagnosis. Screenings should be repeated for every three years, according to the American Cancer Society. Regular screenings help to reduce the risk of colon cancer.

Other complications of ulcerative colitis include: kidney stones, inflammation of your skin, joints, and eyes, ankylosing spondylitis, which involves inflammation of joints between your spinal bones, liver disease, which is rare, thickening of the intestinal wall, intestinal bleeding and blood infection, rapture of your colon (Lai & Fujinami, 2021).

### ***Prevention of ulcerative colitis***

There is no exact evidence indicating that the diet affects whether you develop ulcerative colitis. Certain foods and drinks aggravate the symptoms when you have a flare up. Practices that may help include: lowering your intake of milk, avoiding fatty foods, eating smaller meals throughout the day, drinking small amounts of water throughout the day, limiting your intake of high fiber foods.

The diagnosis of ulcerative colitis cannot be established definitively by any single diagnostic study. Rather, it is made on the basis of an overall interpretation of the clinical manifestations, laboratory tests, and endoscopic, histological, and radiological findings. An infectious cause should be ruled out at the time of initial diagnosis, and later on whenever an acute episode raises. The classic micro-

bial pathogens should be considered, and in particular *Clostridioides difficile* (Dolin 2021). In treatment resistant cases, a reactivated cytomegalovirus infection should be demonstrated as recommended in the current guideline. Laboratory tests should include the measurement of the inflammatory parameters in the blood and stool (Feagan et al., 2021). The main differential diagnosis is Crohn's disease, followed by rare types of colitis such as colitis induced by nonsteroidal anti-inflammatory drugs and ischemic, lymphogenic, and collagenous colitis.

Rarely, in case of treatment-resistant proctitis, a sexually transmitted diseases, radiation induced proctitis, or malignant infiltration of the colorectum must be considered. Proctological disease should be considered in cases of purely proctitis symptoms or isolated hematochezia. The classic parameters of inflammation are generally not elevated; inflammatory activity of ulcerative colitis is very intense. It follows that elevated inflammatory parameters imply a severe disease course. In moderate colitis, the fecal inflammatory parameters, such as calprotectin, are much more sensitive (Dolin 2021). These are, therefore, suitable for the follow-up evaluation of all patterns of the disease. Iron-deficiency anemia is the most common extraintestinal manifestation of chronic inflammatory bowel disease; thus, screening for iron deficiency should be carried out approximately once per year, even in patients who are clinically in remission. Because an accompanying primary sclerosing cholangitis, if present, would have major implications for the treatment and prognosis of ulcerative colitis, the bilirubin concentration and parameters should be checked approximately once per year as well.

Ulcerative colitis is visualized endoscopically as an inflammatory process that spreads continuously from the rectum in the oral direction. It can be classified according to the pattern of involvement, as follows: Proctitis, inflammation confined to the rectum, left-sided colitis and that has spread past the splenic flexure. The spectrum of endoscopic findings ranges from low activity, with a rough, granular mucosa, reduced vascular markings, and no more than moderate erythema, all the way to severe activity with ulcers and spontaneous, mainly petechial hemorrhages.

The transition from normal to inflamed mucosa is typically sharply delineated, and the inflammation typically becomes more severe proceeding distally (Spinelli et al., 2022). The rectum may be spared in patients who have both sclerosing cholangitis and ulcerative colitis, as well as in children and adolescents with ulcerative colitis. A lesser degree of inflammation may also be seen distally as the result of local treatment with suppositories, enemas, or foam. In left sided colitis, there may be an isolated focus of inflammatory activity in the cecum, a so-called cecal patch. Whenever any treatment is initiated or switched to another type of treatment, and particularly when treatment with any biological agent is begun, the response should be checked by endoscopy in the three to six months (Tripathi & Feuerstein (2019). The goal of treatment is endoscopically documented healing of the mucosa, even if this cannot be achieved in all patients. If endoscopy is unavailable, the treatment response should be judged with the aid of objective alternative parameters, such as the lowering or normalization of fecal calprotectin, or the normalization of the ultrasonographically measured thickness of the bowel wall. Patients whose disease has spread beyond the intervals that depend on risk stratification. According to Spinelli (2022), some patients with ulcerative colitis have colon carcinoma by 30 years after the onset of the disease. The risk of colon cancer has gone down in recent years because of meticulous surveillance. Colonoscopy should be performed either as chromoendoscopy, or else as high resolution white-light endoscopy, with targeted biopsies in either cases.

## Conclusion

A wide variety of drugs are now available for the treatment of ulcerative colitis, enabling the individualized choice of the best treatment for each patient. Regular surveillance colonoscopies to rule out colon carcinoma should be scheduled at intervals that depend on risk stratification.

Physicians are always available in severe cases of danger to save patients and also work together with doctors to bring about changes to patients' life knowing the progress and current status of health.

## References

1. Armuzzi A and Liguori G. "Quality of life in patients with moderate to severe ulcerative colitis and the impact of treatment: A narrative review". *Digestive and Liver Disease* 53.7 (2021): 803-808.
2. Alsoud D., et al. "Breaking the therapeutic ceiling in drug development in ulcerative colitis". *Lancet Gastroenterol Hepatol* 6.7 (2021): 589-595.
3. Dolin J. "The special Nordic science education and science education research tradition– and the importance of nursing it". *Science Education in the light of Global Sustainable Development:-trends and possibilities* 15 (2021).
4. Feagan BG., et al. "Filgotinib as induction and maintenance therapy for ulcerative colitis (SELECTION): a phase 2b/3 double-blind, randomised, placebo-controlled trial". *The Lancet* 397.10292 (2021).
5. Gottlieb K., et al. "Central reading of ulcerative colitis clinical trial videos using neural networks". *Gastroenterology* 160.3 (2021): 710-719.
6. Kucharzik T., et al. "Ulcerative colitis—diagnostic and therapeutic algorithms". *Deutsches Ärzteblatt International* 117.33-34 (2020): 564-574.
7. Lai K and Fujinami T. "A Comparative Study on the Expectation of Active Seniors in Nursing Care between Japan and China". In *2021 5th International Conference on Medical and Health Informatics* (2021): 259-264.
8. Naftali T., et al. "Cannabis is associated with clinical but not endoscopic remission in ulcerative colitis: A randomized controlled trial". *PloS one* 16.2 (2021): e0246871.
9. Sandborn WJ., et al. "Ozanimod as induction and maintenance therapy for ulcerative colitis". *New England Journal of Medicine* 385.14 (2021): 1280-1291.
10. Sands BE., et al. "Vedolizumab versus adalimumab for moderate-to-severe ulcerative colitis". *New England Journal of Medicine* 381.13 (2019): 1215-1226.
11. Smillie CS., et al. "Intra-and inter-cellular rewiring of the human colon during ulcerative colitis". *Cell* 178.3 (2019): 714-730.
12. Spinelli A., et al. "ECCO guidelines on therapeutics in ulcerative colitis: surgical treatment". *Journal of Crohn's and Colitis* 16.2 (2022): 179-189.
13. Tripathi K and Feuerstein JD. "New developments in ulcerative colitis: latest evidence on management, treatment, and maintenance". *Drugs in context* 8 (2019).
14. Ungaro R., et al. "A treat-to-target update in ulcerative colitis: a systematic review". *The American journal of gastroenterology* 114.6 (2019): 874-883.
15. Zakerska-Banaszak O., et al. "Dysbiosis of gut microbiota in Polish patients with ulcerative colitis: A pilot study". *Scientific reports* 11.1 (2021).
16. Zhu Y., et al. "CXCL8 chemokine in ulcerative colitis". *Biomedicine & Pharmacotherapy* 138 (2021): 111427.