CE

2.3
ANCC
CONTACT HOURS

Managing the ups and downs of ulcerative colitis

By Helene Harris, MSN, RN, and
Linda Jelemensky, PhD, RN-BC, CDE

ULCERATIVE COLITIS (UC) is a complex chronic disease that runs the gamut from merely inconvenient to completely debilitating. The most common form of inflammatory bowel disease (IBD) worldwide, UC may affect as many as 700,000 Americans.[1,2] The disease process is characterized by unpredictable periods of remission with relapses.[3,4]

UC isn't preventable, but it can be treated. About 10% to 40% of those with UC will require a proctocolectomy, which entails removing the diseased portion of the rectum or colon.[5] Some patients may require a colectomy and colostomy, which is removal of the diseased portion of the colon and creation of a stoma for bowel evacuation.[6]

This article describes risk factors for UC as well as its pathophysiology, nursing care, and treatment.

Who's at risk?

The cause of UC isn't known, but one theory is that immune system abnormalities play a role.[5] Genetics are a major risk factor for UC: Patients have a higher likelihood of developing UC if they have a first-degree relative (such as a parent or sibling) with the disease. UC is more common in Whites and Ashkenazi Jews.[2]

Although the disease can occur at any age, on average people with UC are diagnosed between ages 15 and 40. Risk factors include certain environmental and immunologic factors, dietary habits, the use of oral contraceptives, childhood infections, and atypical mycobacterial infections.[2,7]

Pathophysiology and clinical manifestations

UC is characterized by inflammation and ulcerations in the large intestine. The inflammation commonly involves the rectum and progresses upward along the colon's mucosal layer. The healthy tissue and the inflamed, ulcerated tissue of the colon can be clearly distinguished via colonoscopy. (See *An inside look at UC*.)

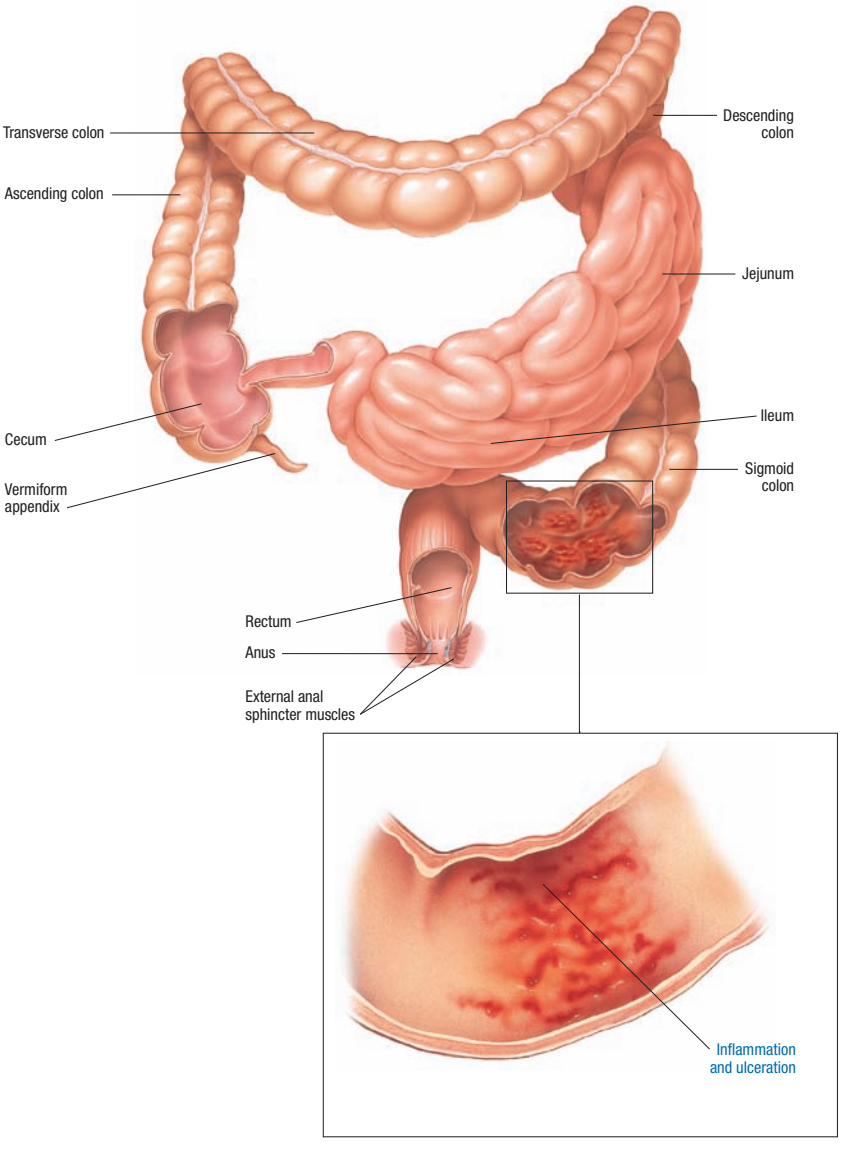
UC tends to follow a course of exacerbations or acute flare-ups and remissions, with 25% to 50% of patients relapsing annually.[5,8] Signs and symptoms typically appear gradually over several weeks or months. During acute flare-ups, patients usually present with mild-to-severe crampy abdominal pain, urgent bloody or purulent diarrhea, nausea, and fever. Recurring episodes of inflammation frequently result in *tenesmus*, a feeling of incomplete evacuation that may be associated with a persistent and severe urge to empty the bowel.

Other possible signs and symptoms include fever, anemia, and weight loss. Some patients experience other extraintestinal manifestations.[7-9] (See *Eye on extraintestinal manifestations of UC*.) During remissions, patients are asymptomatic.

UC can be categorized according to severity, as follows.

- **Mild,** characterized by up to four loose stools per day that may or may not be bloody. Patients may have mild crampy pain, tenesmus, and intermittent constipation, but they don't show signs of systemic toxicity.[10]
- **Moderate,** characterized by more than four loose, bloody stools per day, mild anemia, and mild-to-moderate abdominal pain. One sign of systemic toxicity is a low-grade fever.[10]
- **Severe,** characterized by six or more loose, bloody stools per day and severe cramping. Systemic toxicity is evidenced by a fever (temperature greater than or equal to 37.5° C or 99.5° F), tachycardia (HR greater than or equal to 90 beats/min), anemia (hemoglobin less than 10.5 g/dL), or an elevated erythrocyte sedimentation rate (greater than or equal to 30 mm/hr). Unlike patients with mild or moderate UC, patients with severe UC may lose weight rapidly.[10] This condition is debilitating, frequently requiring hospitalization due to electrolyte imbalance and anemia from extreme blood loss.[8]

An inside look at UC



UC can also be categorized according to the site of ulceration in the colon. (See *Sorting out types of UC*.)

Reaching a diagnosis

Subjective information from the patient about bloody diarrhea, abdominal cramping, and severe rectal symptoms including urgency and tenesmus raises suspicion for a diagnosis of UC. A complete blood cell (CBC) count can help to determine the presence of anemia or dehydration. Markers of inflammation including C-reactive protein and erythrocyte sedimentation rate can help clinicians assess disease severity.

A diagnosis of UC doesn't require abdominal imaging but it may be

used for patients with colitis. Abdominal X-rays may be normal in mild or moderate UC. Double contrast barium enema tests may be normal in patients with mild UC. Barium enemas are contraindicated in severely ill patients to avoid precipitating ileus with toxic megacolon.

Computed tomography and magnetic resonance imaging are less sensitive than barium enema testing in mild or early UC; they're more useful in patients with established and severe UC. Ultrasound with Doppler may produce nonspecific findings.[10]

A biopsy of the colon via endoscopy is needed to confirm the UC diagnosis; findings can identify chronic inflammation and rule out other causes of colitis. An ileocolonoscopy can help to distinguish UC from Crohn disease and determine disease severity. In hospitalized patients with severe colitis, a flexible sigmoidoscopy should be performed instead of a colonoscopy to prevent development of toxic megacolon.[10]

Treating UC

The primary treatment goal for any acute flare-up is remission of signs and symptoms, followed by maintaining the remission for at least 1 year and improving the patient's quality of life. Prompt treatment at an early stage is the most promising route to controlling signs and symptoms and maintaining remission.[1,5]

Making a definitive prediction about the future course of UC is difficult without observing the patient's response to treatment over an extended period. A patient's progress in the year following the initial diagnosis may be a good indicator of disease progression. More than two flare-ups within a year may signify a more severe disease progression.[8,11] All patients should be reassessed at least annually to track the disease's course.[11]

Treatment options for UC include medication and possibly surgery if medical management is inadequate. Commonly prescribed drugs include aminosalicylates such as sulfasalazine, corticosteroids such as prednisone, and tumor necrosis blocking agents such as infliximab and adalimumab. Teach patients the importance of adhering to the medication regimen as prescribed and tell them to report adverse reactions and any worsening symptoms to the healthcare provider. Also monitor C-reactive protein results to assess for improvement or worsening of the inflammatory response, and CBC counts to monitor for anemia and leukopenia. (Some medications, such as sulfasalazine, can cause leukopenia). Assess the frequency and characteristics of bowel movements, especially for the presence of blood, pus, or mucus, and document the findings.[12-14]

If medication isn't successful or if signs and symptoms are worsening, the patient may need a colectomy to remove the ulcerated portion of colon. Patients with extensive colon damage may have a colostomy.

Recognizing complications

The main acute complications of UC are severe bleeding/hemorrhage from ulcerations, fulminant colitis, toxic megacolon, and perforation of the colon.[2,7,10]

Fulminant colitis refers to severe UC associated with relentless abdominal pain and more than 10 stools per day, continuous bleeding, abdominal distension, and acute, severe toxic signs such as fever. Fulminant colitis is extremely

Eye on extraintestinal manifestations of UC[16]

The underlying inflammation of UC can lead to disorders elsewhere in the body. For example:

- erythema nodosum, which causes tender, erythematous nodules, most often on the ankles or pretibial areas
- pyoderma gangrenosum, a painful and progressive destructive skin disorder characterized by deep skin ulceration
- arthritis in large joints, which may or may not involve joint edema and erythema
- stomatitis.

These disorders tend to flare and resolve along with IBD attacks. Other syndromes that may be related to IBD but don't coincide with exacerbations include uveitis, ankylosing spondylitis, and primary sclerosing cholangitis.

Patients with IBD have a greater incidence of thromboembolic events and may develop abnormal liver function tests, indicating liver disease. They're also at increased risk for osteoporosis, osteopenia, and osteonecrosis.[10]

Sorting out types of UC[8,11]

UC is classified by the areas of the colon it affects:

- **Proctitis**—inflammation and ulceration are confined to the rectum.
- **Proctosigmoiditis**—inflammation and ulceration extend to the rectosigmoid junction.
- **Left-sided colitis**—inflammation and ulceration extend to the splenic flexure.
- **Extensive colitis**—inflammation and ulceration extend to the hepatic flexure.
- **Pancolitis**—inflammation and ulceration encompass the entire large intestine.

serious because it can lead to toxic megacolon and bowel perforation.[8,10,15]

In toxic megacolon, the colon dilates to 6 cm (2.4 in) or more, or the cecum dilates to more than 9 cm (3.5 in). This complication of UC is characterized by systemic toxicity and radiographic evidence of nonobstructive colonic dilatation. For diagnosis, at least three of these four signs must be present: fever greater than 38° C (100.4° F), neutrophilic leukocytosis greater than 10,500/mm^3, HR greater than 120 beats/min, and anemia. The patient must also have at least one of these signs: dehydration, altered sensorium, electrolyte disturbances, or hypotension.[15] Toxic megacolon may lead to bowel perforation or septicemia with a high mortality.[1]

Patients with toxic megacolon are treated in the ICU and put on complete bowel rest. The patient's gastrointestinal tract will be decompressed with a nasogastric (or long intestinal) tube. Monitor the patient often and assess for signs of deterioration or improvement. As soon as signs of improvement appear, resume enteral feeding as prescribed. Obtain and assess CBC counts, electrolyte levels, and serial abdominal plain films every 12 hours until the patient improves, then daily. Assess the patient for anemia, dehydration, and electrolyte imbalances, especially hypokalemia, and be prepared to assist in providing aggressive treatment.[15]

Patients with long-standing and extensive UC are also at increased risk for colon cancer and liver diseases such as sclerosing cholangitis, a chronic and progressive liver disease involving inflammation and scarring of the bile ducts, and adenocarcinoma of the biliary ducts.[2,16]

Nursing considerations

Nurses are uniquely positioned to prevent and recognize complications

Patients with long-standing and extensive UC are at increased risk for colon cancer and liver disease.

of UC by taking a holistic approach to this multifaceted disease.[11] The treatment plan should include realistic, attainable goals allowing the patient with UC to live a full and healthy life.

The care plan should be individualized based on the patient's medical history, physical assessment findings, lab results, imaging results, and endoscopic findings. The ultimate goals are the absence of signs and symptoms and the achievement of long-term remission.

Encourage patients to participate actively in their own care. Make sure they understand that even if signs and symptoms decrease, they must continue the treatment regimen as prescribed to maintain remission.

Nursing assessment during acute flare-ups consists of obtaining an in-depth health history, including documentation of foreign travel and any antibiotic use within the last 3 months to rule out other possible reasons for the signs and symptoms. Document vital signs and perform a physical assessment focusing on the abdomen. A rectal exam should include a fecal occult blood test.

During acute flare-ups of severe UC, hospitalization may be indicated for administration of I.V. fluids and electrolytes, I.V. corticosteroids, and additional diagnostic testing.[17]

Importance of communication

Because UC is such a complicated and unpredictable disease, it requires very individualized care and ongoing communication between the patient and the treatment team. The nurse needs to have a thorough understanding of UC and the resources available to give the patient accurate information. (See *Tapping into resources*.)

Nurses are ideally positioned to provide holistic care, including education and physical, psychosocial, and emotional support. Because the time spent with healthcare providers is usually focused on diagnosis and treatment, nurses may provide more contact and a patient-focused viewpoint to better meet the individual patient's needs.[11]

Stress management techniques

Chronic physiologic discomfort and mental or emotional distress are closely linked (see *Stress takes a toll*). With UC, this link is especially strong, so getting stress under control is crucial to getting control of UC.

Because patients react to stress differently, keeping an awareness journal of symptoms, stressful life events, and nutrition may help them identify triggers and effective stress management techniques.

Mild exercise, such as walking and swimming, biofeedback, breathing exercises, and hypnosis are effective stress reduction techniques. Engaging in hobbies, listening to music, reading, taking long walks through the woods, or just setting aside a few minutes a day to pamper oneself have proven to be significant stress reducers. Although support groups aren't for everybody, for many patients they're a prime source of emotional support.[17]

For comfort and peace of mind, any travel away from home is best planned in advance. Knowing restrooms' locations while on excursions from the house, whether in restaurants or shopping areas or while using public transportation, is important. Being prepared by traveling with extra underwear and toilet tissue can go a long way toward reducing anxiety. Remind patients to take their medications as prescribed and encourage them to travel with an adequate supply of their medication.

Stress takes a toll

Although stress doesn't cause UC, it can trigger or exacerbate the signs and symptoms while taking an emotional toll on the patient. Stress causes gastroparesis and hyperacidity and can either increase or decrease intestinal motility. Some patients with UC have increased intestinal permeability; due to this and stress, gastrointestinal motility can speed up or slow down unpredictably and uncontrollably.[18]

Stressful events can range from the minor aggravations of daily living to larger life issues such as a move, job loss, or death of a family member. Other factors that might affect disease signs and symptoms include a change in lifestyle, smoking and alcohol use, medication interactions, daily stressors such as child care, health problems or surgery, and hormonal changes related to the menstrual cycle.

If signs and symptoms are severe, patients' lives may revolve around their constant need to run to the bathroom. Even mild signs and symptoms, such as passing gas and having abdominal pain, can make being out in public stressful.

Studies have shown that patients diagnosed with UC are at a 50% higher risk of developing psychiatric disorders compared with patients with other chronic illnesses.[3] Depression, anger, and hopelessness are common companions of UC.

Trying to cope with emotional stress, some patients become dependent on opioids, alcohol, and antidepressants. Screening and treating these coexisting illnesses is as important as treating the disease itself. Patients who suffer from severe emotional or psychological dysfunction can benefit from a consult with a behavioral medicine practitioner.

Anger and hopelessness can lead to treatment failure if the patient fails to adhere to the prescribed regimen. Strong family and medical support systems help ease emotional stress and encourage treatment adherence.

Dietary and nutritional considerations

Certain foods aggravate the disease signs and symptoms, especially during a disease flare-up. Although diet is neither the cause of nor a cure for the disease, many people find that limiting or eliminating dairy products can reduce or prevent diarrhea, abdominal pain, and gas. Other foods that may cause similar problems include raw beans, cabbage, broccoli, fruit juices, and fruits, which can often be enjoyed without incident if they're eaten steamed, baked, or stewed instead of raw. Additional foods and beverages to consume with caution include spicy foods, popcorn, alcohol, caffeine, chocolate, and carbonated drinks. Advise patients that multiple small meals are tolerated more readily than two or three larger ones.[1,5] If diet has become an issue and the patient has begun to lose weight, or if the diet is extremely limited, encourage a consult with a registered dietitian.

Teach patients to observe rules of basic hygiene, including good hand hygiene to reduce the risk of developing a gastrointestinal infection and possible flare-up.

A food journal, awareness journal, and stool chart may reveal which foods and/or stressors trigger a flare-up. By reviewing information in the journals, the nurse and patient may be able to identify flare triggers, make dietary or lifestyle changes to prevent future flares, and set other realistic, attainable goals.

Goals may be included in the awareness log and should be part of journaling. Monitoring signs and symptoms and responses to treatments through awareness journaling gives the patient some control in the management of this unpredictable disease.[7]

Reinforce education about the importance of maintaining fluid, food, stool, and weight charts. Advise the patient that UC raises the

Tapping into resources

Centers for Disease Control and Prevention. Inflammatory bowel disease. http://www.cdc.gov/ibd.

Crohn's and Colitis Foundation of America (CCFA). http://www.ccfa.org.

Crohn's and Colitis Community (CCFA). http://www.ccfacommunity.org.

National Digestive Diseases Information Clearinghouse. Ulcerative colitis. http://digestive.niddk.nih.gov/ddiseases/pubs/colitis.

risk of dehydration and other health problems, and educate the patient about other conditions that may be associated with UC. Make sure the patient questions his or her healthcare provider about how often colonoscopies are needed. Disease severity determines the frequency of testing.[5]

Long and winding course

Patients with UC need consistent, individualized care. Nurses who are aware of and acknowledge the challenges patients with UC face can help improve communication and tailor ongoing care to each patient's unique condition. ■

REFERENCES

1. Danese S, Fiocchi C. Ulcerative colitis. *N Engl J Med*. 2011;365(18):1713-1725.

2. Centers for Disease Control and Prevention. Inflammatory bowel disease. 2014. http://www.cdc.gov/ibd.

3. Brin C. *Inflammatory Bowel Disease, Module I*. Society of Gastroenterology Nurses and Associates; 2013:1-7. http://sgna.org.

4. Jåghult S, Saboonchi F, Johansson UB, Wredling R, Kapraali M. Identifying predictors of low health-related quality of life among patients with inflammatory bowel disease: comparison between Crohn's disease and ulcerative colitis with disease duration. *J Clin Nurs*. 2011;20(11-12):1578-1587.

5. National Digestive Diseases Information Clearinghouse. Ulcerative colitis. 2014. http://digestive.niddk.nih.gov/ddiseases/pubs/colitis.

6. Pullen R, Julian M. Caring for a patient with inflammatory bowel disease. *Nursing Made Incredibly Easy*. 2012;10(4):36-45.

7. Ignatavicius DD, Workman ML. *Medical-Surgical Nursing: Patient-Centered Collaborative Care*. 7th ed. St. Louis, MO: Saunders Elsevier; 2013.

8. Sephton M. Nursing management of patients with severe ulcerative colitis. *Nurs Stand*. 2009;24(15-17):48-60.

9. Torpy JM, Lynm C, Golub RM. JAMA patient page. Ulcerative colitis. *JAMA*. 2012;307(1):104.

10. Peppercorn MA, Kane SV. Clinical manifestations, diagnosis, and prognosis of ulcerative colitis in adults. 2013. UpToDate. http://www.uptodate.com.

11. Dudley-Brown S, Baker K. Ulcerative colitis from patients' viewpoint: a review of two Internet surveys. *Gastroenterol Nurs*. 2012;35(1):54-63.

12. Adams M, Koch R. *Pharmacology: Connections to Nursing Practice*. Upper Saddle River, NJ: Pearson; 2010.

13. Hodgson B, Kizior R. *Saunders Nursing Drug Handbook 2012*. St. Louis, MO: Elsevier Saunders; 2012.

14. Agency for Healthcare Research and Quality. Ulcerative colitis practice guidelines in adults: American College of Gastroenterology, Practice Parameters Committee. 2010. http://www.guideline.gov/content.aspx?id=38323&search=ulcerative+colitis.

15. Sheth SG, LaMont JT. Toxic megacolon. UpToDate. 2014. http://www.uptodate.com.

16. Day MW. Fight back against inflammatory bowel disease. *Nursing*. 2008;38(11):34-42.

17. Crohn's and Colitis Foundation of America. http://www.ccfa.org.

18. Brin C. *Inflammatory Bowel Disease, Module III*. Society of Gastroenterology Nurses and Associates; 2013:1-14. http://sgna.org.

Helene Harris is a clinical educator at Central Texas Veterans Health Care System in Temple, Tex. Linda Jelemensky is a veteran health educator at Central Texas Veterans Health Care System in Austin and Cedar Park, Tex.

The authors and planners have disclosed no potential conflicts of interest, financial or otherwise.

DOI-10.1097/01.NURSE.0000451524.56480.88