quickLESSON about...

Ulcerative Colitis

Description/Etiology

Ulcerative colitis (UC) is a chronic inflammatory bowel disease of unknown etiology, differentiated from Crohn's disease by the anatomic distribution of disease activity and by histopathology. The diffuse inflammation and ulceration of UC are limited to the colon and rectum, spread in a continuous pattern (i.e., no disconnected areas of healthy mucosa are present between UC ulcerations), and typically affect only the innermost intestinal mucosa. UC manifests as relapsing and remitting, and can present as proctitis, proctosigmoiditis, left-sided colitis, or pancolitis. *Mild to moderate disease* is characterized by frequent, low-volume bowel movements, urgency, rectal bleeding, and tenesmus. *Severe disease* or extensive bowel involvement can additionally cause fever, prostration, drastic weight loss, tachycardia, dehydration, and blood loss. Chronic inflammation may lead to shortening of the colon, dysplastic changes, and pseudopolyps. Extraintestinal disease may affect the joints, skin, mouth, and eyes, or manifest as liver disease, gallstones, kidney stones, osteoporosis, malabsorption, peptic ulcer disease, or amyloidosis. Extraintestinal complications include skin disorders, arthritis, lung disease, thromboembolism, and hemolytic anemia.

UC is diagnosed based on patient history, physical examination, laboratory testing, radiography, and colonoscopy. Clinical management is focused on early recognition and resolution of severe attacks, achievement and maintenance of remission with medication, and improvement in quality of life. Treatment goals are individualized according to disease location, activity, and severity. Medical treatment of UC commonly includes aminosalicylates, glucocorticoids, tumor necrosis factor (TNF) inhibitors, immunomodulators, antibiotics, and antidiarrheal drugs. UC is curable with colectomy, which is considered an appropriate intervention primarily for those with long-standing or refractory disease, cancer, or acute complications, or for growth retardation in children. Lifelong healthcare surveillance is necessary to evaluate disease activity.

Facts and Figures

Prevalence in the United States is 50–150 per 100,000 persons. Peak incidence occurs between 20 and 40 years and then again between 55 and 65 years. Women are more commonly affected at younger ages, while men are more likely to be diagnosed with UC in middle and older age. Fifteen to 20% of patients with UC eventually require colectomy. More than 75% of patients treated medically will experience relapse. Patients with UC are at increased risk for colorectal cancer (CRC).

Risk Factors

The etiology is unknown, but ongoing research suggests that a combination of environmental, genetic, infectious, allergenic, dietary, and immunologic factors triggers UC. Risk of developing UC is increased 10-fold in individuals with a first-degree relative with the disease. Although psychological factors have not been shown to cause UC, stress seems to worsen symptoms. The risk of UC is highest in Caucasians and individuals of Jewish heritage, and risk is slightly higher for females than for males.

Signs and Symptoms/Clinical Presentation

Predominant symptoms are frequent and bloody diarrhea, cramping, abdominal tenderness, rectal bleeding, and intermittent tenesmus. Severe disease is indicated by bloody or nocturnal diarrhea, weight loss, and low energy levels. Pallor, constipation, anorexia, severe weight loss, fever, vomiting, dehydration, tachycardia, and extraintestinal disease manifestations may be present.

Assessment

Patient History

- Ask about lifestyle factors; onset, duration, and characteristics of abdominal pain and other symptoms associated with UC; bowel patterns; and family history of UC

Physical Findings of Particular Interest

- Signs of UC may be apparent with abdominal auscultation and palpation

Laboratory Tests That May Be Ordered

- CBC may show low hemoglobin and/or hematocrit, indicating anemia; WBC and platelet counts may be elevated; PT may be prolonged
- Serum electrolytes and serum albumin levels will typically be decreased
- Inflammation markers (e.g., ESR, C-reactive protein) may be elevated
- Perinuclear antineutrophil cytoplasmic antibodies with perinuclear staining (p-ANCA) helps to

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differentiate UC from Crohn's disease
- Stool examination and cultures may show blood, parasites, and/or microorganisms

Other Diagnostic Tests/Studies

- Plain abdominal X-ray will show the extent of disease and exclude toxic megacolon
- Endoscopic procedures (e.g., flexible sigmoidoscopy, colonoscopy) with biopsy confirm the diagnosis and define the extent and severity of disease; leukocyte scanning can be used when severe disease prohibits endoscopy
- Air-contrast barium enema in cases of mild to moderate UC may show mucosal changes and complications

Treatment Goals

Provide Symptomatic Relief To Control the Inflammatory Process

- Assess level of disease severity; bedrest or restricted activity may be ordered
  - Implement thromboembolism prophylaxis per facility protocol or as ordered
- Administer prescribed medications, e.g., aminosalicylates (e.g., sulfasalazine, mesalamine), TNF inhibitors (e.g., infliximab), immunomodulators (e.g., azathioprine), and/or I.V. corticosteroids (e.g., prednisone)
- Antidiarrheal agents (e.g., loperamide), if ordered, require close monitoring for toxic megacolon
  - Monitor the number and appearance of stools to evaluate treatment progress
  - Ensure perianal cleanliness and comfort
  - Demonstrate empathy for patient embarrassment over gastrointestinal symptoms
- Follow facility pre- and postsurgical protocols if patient becomes a surgical candidate (e.g., for colectomy, ileoanal pouch); reinforce pre- and postsurgical education and ensure completion of facility informed consent documents
  - Monitor for postsurgical complications (e.g., bleeding, infection) and treat, as ordered

Replace Nutritional Losses and Provide Optimum Fluid Volume/Electrolyte Balance

- NPO status, total parenteral nutrition (TPN), enteral supplements, or a low-residue, high-calorie diet may be ordered
- Request a dietitian consult to individualize the diet according to tolerance, preference, meal frequency, and food presentation to minimize anorexia
- Supplemental vitamins, calcium, potassium, and iron may be ordered
- I.V. fluids and blood products may be ordered

Monitor for Complications, Provide Emotional Support, and Educate

- Evaluate treatment response through monitoring of intake and output, vital signs, weight, and laboratory values; antibiotics may be ordered if infectious complications develop
- Assess anxiety level and coping ability; educate and encourage discussion about UC pathophysiology, potential complications, treatment risks and benefits, and individualized prognosis; request referral, if appropriate, to a mental health clinician for counseling on strategies for coping with a chronic disease and to a social worker for identification of local support groups

Food for Thought

- Currently, leukocytapheresis (i.e., a procedure that selectively removes WBCs from blood) is used outside of the U.S. in the treatment of UC (Helmy et al., 2009)
- Investigators reported that when compared to placebo, outpatients who were treated for moderate to severely active UC with infliximab evidenced a 41% reduced colectomy rate (Sandborn et al., 2009)

Red Flags

- Some of the medications routinely used in the treatment of UC can cause life-threatening complications and chronic disease conditions, and may be inappropriate for use by pregnant or nursing women; consult a drug information resource for a complete listing of potential adverse effects of all drugs prior to administration
- Aminosalicylates commonly used in remission maintenance can worsen diarrhea during an acute attack and may require temporary discontinuation

What Do I Need to Tell the Patient/Patient's Family?

- Provide written information, if available, to reinforce verbal education on symptoms of UC flare-up, complications that require prompt medical attention, and dietary/lifestyle instructions
- Advise that adherence to the prescribed treatment regimen, adherence to a healthy diet, smoking cessation, maintenance of adequate fluid and electrolyte balance, and a healthy lifestyle will ensure longer symptom-free periods between disease exacerbations
- Emphasize the need for routine endoscopic surveillance with biopsy to screen for CRC beginning 8 years after UC diagnosis

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