Inflammatory Bowel Disease

Inflammatory bowel diseases are the second most common chronic inflammatory disorders after rheumatoid arthritis. The diagnosis of ulcerative colitis (UC) and Crohn's disease (CD), and the differentiation between them is based on nonspecific clinical and histologic patterns often obscured by intercurrent infections or iatrogenic events or that are altered by medications or surgery. The incidence rates of UC and CD in the United States are approximately 11 per 100,000 and 7 per 100,000. The peak age at onset of UC and CD is between 15 and 30 years and between the ages of 60 and 80, respectively. The male-to-female ratio for UC is 1:1 and is 1.1:1.8 for CD

ANESTHETIC CONSIDERATIONS:

- Association with other medical conditions
  - Ankylosing spondylitis → difficult A/W, restrictive lung disease
  - Primary sclerosing cholangitis and liver failure
- Side effects of medication therapy
  - Chronic steroid use (adrenal suppression: stress dose steroids)
  - Sulfasalasine (may cause hemolytic anemia and hepatitis)
- Malnutrition and associated sequelae
  - poor wound healing
  - weakness
  - altered protein binding/pharmacokinetics
  - electrolyte and fluid derangements
- GI-complications: obstruction, perforation (Toxic megacolon), fistula → sepsis and septic shock
- Extraintestinal manifestations
  - Arthritis
  - Interstitial lung disease
  - Iritis
  - Anemia
  - Liver disease
  - Vitamin deficiency

ANESTHETIC GOALS:

- Preoperative optimization of systemic manifestations
  - Review of medications and associated anesthetic implications
  - Correct electrolyte and fluid derangements
  - Review of extraintestinal manifestations
- Perioperative steroid supplementation

DEFINITIONS

- UC is an inflammatory bowel diseases primarily affecting the rectum and colon with bimodal age distribution: 20-30 and >60
- CD is a chronic granulomatous disease that may occur anywhere in the GI tract from the mouth to the anus. The ileum most often is involved. Same bimodal age distribution as UC

HISTORY & PHYSICAL

- The major symptoms of UC are diarrhea, rectal bleeding, tenesmus, passage of mucus, and crampy abdominal pain. Other symptoms in moderate to severe disease include anorexia, nausea, vomiting, fever, and weight loss
- Clinical features of CD are colicky pain in the lower abdomen, fever, weight loss, malaise, and anorexia

INVESTIGATIONS

- Active disease can be associated with an increase in acute-phase reactants (C-reactive protein, orosomucoid levels), platelet count, erythrocyte sedimentation rate, and a decrease in hemoglobin. In severely ill patients, the serum albumin level will fall rather quickly, and leukocytosis may be present

OPTIMIZATION

- Correction of hypovolemia and electrolyte imblances

COMPLICATIONS

- Catastrophic illness is an initial presentation of only 15% of patients with UC. In 1% of patients, a severe attack may be accompanied by massive hemorrhage, which usually stops with treatment of the underlying disease. However, if the patient requires six to eight units of blood within 24 to 48 hours, colectomy is frequently the treatment of choice
- Toxic megacolon is defined as a dilated transverse colon with loss of haustration. It occurs in approximately 5% of attacks and can be triggered by electrolyte abnormalities and narcotics Approximately 50% of all acute dilatations will resolve with medical therapy alone, but urgent colectomy is required for those that do not improve with conservative treatment
- Perforation is the most dangerous of the local complications (mortality rate is approximately 15%), and the physical signs of peritonitis may not be obvious, especially if the patient is receiving glucocorticoids
- Some patients can develop toxic colitis and such severe ulcerations that the bowel may perforate without first dilating. Obstructions caused by benign stricture formation occur in 10% of patients

PATHOPHYSIOLOGY

- UC is a mucosal disease for which treatment involves the rectum and extends proximally to involve all or part of the colon. Approximately 40% to 50% of patients will have disease limited to the rectum and rectosigmoid, 30% to 40% have disease extending beyond the sigmoid but not involving the whole colon, and 20% have a total colitis
- In more severe disease, the mucosa is hemorrhagic, edematous, and ulcerated. In long-standing disease, inflammatory polyps (pseudopolyps) may be present. In patients with many years of disease, the mucosa appears atrophic and featureless and the entire colon narrows and shortens
- CD is characterized by marked thickening of the involved intestinal wall with transmural inflammation, enlarged and matted mesenteric lymph nodes, deep ulceration leading to cobblestoning and fistula formation, as well as stricture formation secondary to scarring

REFERENCES

- Stoelting's Anesthesia and Co-Existing Disease, 5th Edition