Understanding the Differences Between Ulcerative Colitis and Crohn's Disease:

What Every Patient Needs to Know

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Today’s Objectives

• Understand inflammatory bowel diseases (Ulcerative Colitis and Crohn’s Disease)

• Recognize symptoms and differences between the two
What are Inflammatory Bowel Diseases (IBD)?

• Comprises Crohn’s disease (CD) and ulcerative colitis (UC)
  – Overlapping symptoms and complications
    • Crohn’s disease can affect any area of the gastrointestinal (GI) tract, including the small intestine and colon
    • Ulcerative colitis affects only the colon
• An estimated 1.4 million Americans live with IBD
• 30,000 new cases diagnosed each year
The Gastrointestinal System
What Are the Potential Causes of IBD?
Can they help differentiate between UC and CD?

Genetic Predisposition (i.e. different genes linked to each)

Immune System Abnormalities

Environmental Factors (i.e. cigarette smoking, NSAID use, stress)
What Are the Potential Causes of IBD?

• Genetic Predisposition
  – 20%–25% of patients have a close relative with IBD
  – Research has led to identification of
    • 32 genes linked to CD
    • 6 genes linked to UC
What Are the Potential Causes of IBD? Can they help differentiate between UC and CD?

Genetic Predisposition (i.e. different genes linked to each)

Immune System Abnormalities

Environmental Factors (i.e. cigarette smoking, NSAID use, stress)
Recognizing Symptoms of Crohn’s Disease

- Persistent diarrhea
- Crampy abdominal pain
- Low-grade fever
- Rectal bleeding

- Loss of appetite/weight loss
- Extraintestinal manifestations
  - Joint pain/swelling
  - Eye inflammation
  - Skin lesions
  - Mouth ulcers
Recognizing Symptoms of Ulcerative Colitis

- Progressive loosening of the stool
- Bloody stool with pus and urgency to evacuate
- Abdominal cramping
- Loss of appetite/weight loss
- Extraintestinal manifestations
  - Joint pain/swelling
  - Eye inflammation
  - Skin lesions
The Spectrum of IBD

ULCERATIVE COLITIS
- Continuous inflammation
- Colon only
- Superficial inflammation
- Variable involvement
- Extrapertal manifestations (pyoderma gangrenosum, primary sclerosing cholangitis)
- Increased risk of cancer
- No Granulomas

CROHN’S DISEASE
- Patchy inflammation
- Mouth to anus involvement
- Full-thickness inflammation
- Variable involvement
- Fistulas
- Abscesses
- Strictures
- Extrapertal manifestations (erythema nodosum, iritis, uveitis, arthritis, apthous ulcers)
- Increased risk of Cancer
- Granulomas

Indeterminate colitis
10%–15%
The Gastrointestinal System
• Erythema nodosum
• Pyoderma Gangrenosum
Diagnosing IBD

Findings on physical exam can help differentiate between UC and CD

• Physical examination
  – Aphthous oral ulcers
  – Skin lesions (nodules and ulcers)
  – Abdominal mass (Crohn’s disease)
  – Perianal abnormalities (Crohn’s disease)
Diagnosing IBD

Findings on Special Studies can help differentiate between UC and CD

• Special studies
  – Small bowel x-ray
  – Barium enema
  – CT/MRI scans
  – Upper endoscopy
  – Colonoscopy
  – Tissue biopsy
Endoscopic Appearance: IBD

Normal colon on colonoscopy

UC on colonoscopy

CD on colonoscopy
Understanding Complications of Crohn’s Disease

- Intestinal obstruction
- Abscess
- Fistula
- Stricture
- Colorectal cancer
Understanding Complications of Ulcerative Colitis

- Anemia
- Perforation (rupture) of the bowel
- Colorectal cancer
- Toxic megacolon
Conclusion:
The Major Differences between UC and CD

• Ulcerative Colitis
  – can only affect the colon
  – superficial inflammation
  – continuous disease (no skip lesions)
  – no granulomas

• Crohn’s Disease
  – can affect anywhere in the GI tract (mouth to anus)
  – transmural inflammation (fistula, etc.)
  – skip lesions
  – granulomas
Fig. 3A Harvey Kimmelheimer, Volunteer, eagerly awaiting testing of new colonoscope.