# ULCERATIVE COLITIS

# EPIDEMIOLOGY

- Highest rates of reported incidence and prevalence of UC include North America, England, northern Europe, and Australia
- Significantly lower incidence rates in other parts of the world, including Asia, Africa, and Latin America

- UC can occur at any age, although diagnosis before the age of five years or after 75 years is uncommon.
- The peak incidence of UC occurs in the second and third decades of life.
- A second, smaller peak in the elderly, between the ages of 60 and 70 years

- More common in industrialized nations
- Urban than rural populations.
- Higher socioeconomic status

# ETIOLOGY AND PATHOGENESIS

- Multifactorial
- Complex interaction of **three elements:** genetic susceptibility, host immunity, and environmental factors

# GENETICS

- Family History
- Multidrug resistance 1 *(MDR1)* gene

# ENVIRONMENTAL FACTORS

- Continuous antigenic stimulation: by commensal enteric bacteria, fungi, or viruses
- Chronic inflammation in genetically susceptible hosts who have defects in mucosal barrier function, microbial killing, or immunoregulation
- UC is more common among nonsmokers than among current smokers

- Diet (refined sugar, fruits and vegetables, alcohol), oral contraceptives, food additives (silicon dioxide), toothpaste, and breast-feeding
- None, however, has been shown conclusively to be associated with UC.

- Protective effect of appendectomy on UC

# PATHOLOGY

- **Initial presentation**
- Rectosigmoid (45%)
- Disease extending beyond the sigmoid but not involving the entire colon( 35%)
- Pancolitis (20%)

- Most severe distally and progressively less severe more proximally
- Continuous and symmetrical involvement is the hallmark of UC
- Sharp transition between diseased and uninvolved segments of the colon

# Macroscopically

- **In mild disease :** Mucosa appears hyperemic, edematous, and granular.
- **As disease progresses**: the mucosa becomes hemorrhagic, with visible punctate ulcers.

- **Long-standing disease** :

  - mucosa is atrophic and featureless,

  -associated with shortening and narrowing of the colon

# Microscopically

- **Early stage:**
- Edema of the lamina propria
- Congestion of capillaries and venules, often with extravasation of red blood cells.
- Inflammatory cell infiltrate
- Neutrophilic infiltration of colonic crypts gives rise to cryptitis ,ultimately to crypt abscesses and crypt loss
- Goblet cell loss

- Inflammation in UC characteristically is confined to the mucosa
- A classic histologic feature of chronic quiescent UC is crypt architectural distortion or actual dropout of glands

# CLINICAL FEATURES

- Rectal Bleeding
- Diarrhea
- Abdominal Pain

# NATURAL HISTORY AND PROGNOSIS

- Most (80%) patients with UC have a disease course characterized by intermittent flares interposed between variable periods of remission.

# DIAGNOSIS

- Thus, diagnosis relies on a combination of compatible clinical features, endoscopic appearances, and histologic findings

# ASSESSMENT OF DISEASE ACTIVITY

***Truelove and Witts Classification* of the Severity of Ulcerative Colitis**

| | |
|---|---|
| **Mild** | <4 stools/day, without or with only small amounts of blood<br>No fever<br>No tachycardia<br>Mild anemia<br>ESR < 30 mm/hr |
| **Moderate** | Intermediate between mild and severe |
| **Severe** | >6 stools/day, with blood<br>Fever > 37.5?C<br>Heart rate > 90 beats/min<br>Anemia with hemoglobin level < 75% of normal<br>ESR > 30 mm/hr |

- Ulcerative Colitis Disease Activity Index

# Acute severe UC and TOXIC MEGACOLON

# TREATMENT

## MEDICAL

- **Induction Therapy** :
- 5-ASA
- Steroids
- Cyclosporine
- Infliximab

- **Maintenance therapy:**
- 5-ASA
- Immunomodulators
- Biologicals
- Probiotics

# Surgery

- Proctocolectomy with Ileal Pouch-Anal Anastomosis

# DYSPLASIA AND COLORECTAL CANCER

- 7% to 10% at 20 years of disease
- 30% after 35 years of disease

# EXTRAINTESTINAL MANIFESTATIONS

**Musculoskeletal**

- Clubbing
- Arthritis
- Arthralgias
- Axial arthropathies
- Metabolic bone disease – osteopenia /osteoporosis

## Mucocutaneous

- Pyoderma gangrenosum and erythema nodosum
- Aphthous ulcers of the mouth

## Ocular

- Scleritis
- Uveitis

# Hepatobiliary

- Asymptomatic and mild elevations of liver biochemical tests
- Gallstones
- Primary sclerosing cholangitis (more often is associated with UC, but it occurs in 4% of patients with Crohn's disease, usually those with colonic involvement )
- Fatty liver
- Autoimmune hepatitis

## Vascular

- A prothrombotic tendency
- Venous thromboembolism or, much less commonly, arterial thrombosis