Inflammatory Bowel Disease.

- It is a chronic autoimmune, inflammatory disease consisting of ulcerative colitis and Chohn's Disease.
- Both appears to be the similar but the differentiating point is
  - Ulcerative colitis - Whole colon
  - Chohn's Disease - Mouth to anus.

① Ulcerative Colitis.

- Ulcer only → Colon → Inflammation
  mucosa & ~~submucosa~~ only.

Etiology - Unknown; Autoimmune
Genetic - Family history, Caucasians & Europeans
predisposition Eg. HLA B27
Risk factors - Smokers.
Sex : Male > Female.

Pathophysiology
Autoimmune disease
T cells infiltrate.
- P-ANCA (Antineutrophil Cytoplasmic antibody) Perinuclear.
  ↓
  Cross react with Gut bacteria
  ↓
  ↑ Sulphide
  ↓
  Acute Inflammation
  ↓
  Ulcers

Pathology:
Layers - Only Mucosa is affected.
Location → Starts from the rectum and spread Proctitis → Proctosigmoiditis. →
Distal Ulcerative colitis → Extensive ulcerative

Colitis → Pancolitis.

Changes: Pseudopolyps. Crypt abscess. loss of goblet cells.

Clinical features:

Gastrointestinal

- Symptoms are always relapsing.
- → Emotional stress, intercurrent infection, GIT antibiotics or NSAIDS may relapse.

① Bloody diarrhea with passage of mucus. Sometimes pellety stools with constipation.

② Left sided colicky abdominal pain.

③ Violent tenesmus.

Systemic

- Fatigue. Fever. Weight loss. Dyspnea.
- Palpitation due to Iron deficiency anemia → Blood loss.

Extraintestinal

- Arthritis. Uveitis. Episcleritis.
- Skin - Pyoderma gangrenosum
  - Erythema Nodosum.
- Primary sclerosing cholangitis.
- Venous / Arterial Thromboembolism
- Hepatitis, Fatty liver, Hepatic abscess, Gallstones.

Complication

Acute → - Severe Gastrointestinal bleeding.
- Fulminant Colitis - (Bleeding + > 10 stools/day)
- Toxic megacolon
  → Nerves and muscles damaged
  ↓
  Dilatation of colon
  ↓
  Perforation
  ↓
  Peritonitis → Shock.

Chronic:
- Colorectal cancer risk.
- Strictures → Bowel obstruction.

② Crohn's Disease
- Anywhere in GI tract, mouth to anus.
- All the layers (Transmural)
- Immune related.

Etiology:
- Familial history.
- Gene mutation → Frameshift mutation in NOD2 gene (Card 15).
- Slight female preponderance
- Smokers.

Pathophysiology
Triggered by pathogens
(Mycobacterium Paratuberculosis, Pseudomonas, Listeria)
↓
Antigen Presenting Cells.
↓
Type 1 Th cells.
↓
Cytokines (TNF, Interleukin)
↓
Macrophages
↓
Free radicals, Proteases,
↓
Unregulated inflammation.

Pathology:
Layers → Transmural
Location → Anywhere from mouth to anus, mainly Ileum + Colon, 40%.
(Ileum) Small intestine - 20%.
Colon - 20%.
Perianal - <10%.

Changes → Skiped lesions
Cobblestone appearance
- Granuloma formation.

Clinical features

① Gastrointestinal
- Watery diarrhea
- Crampy abdominal pain.
- Malabsorption of Fat, Proteins, Vitamins, steatorrhea
- Perianal disease and rectal sparing is main differentiation.
- Perianal skin tags, fissures or fistulae more common.

② Systemic
Fatigue, weight, anemia, Fever.

③ Extraintestinal
- Arthritis (Sacroiliitis/ Ankylosing spondylitis HLA B27) PAIR
- Uveitis, Episcleritis, Mouth ulcers
- Hepatitis, Fatty liver, Liver abscess, Gallstones
- Primary sclerosing cholangitis.
- Venous/ Arterial embolism
- Skin (Pyoderma gangrenorum, erythema nodorum)

Complication

Fistulae (Communication between 2 epithelial organs)

① Enteroenteric fistula → Blind loop syndrome.

② Enterovesical → ~~Enter~~ Bladder → Pneumaturia
Vagina → Gas (Pyometra)

③ Enterocutaneous → Phlegmon, → Abscess, Perineal ulcer, Fissure, Fistula

Lab Investigation

(1) CBC → Anemia → Vitamin B_{12} & Folate
Smear - Microcytic or Macrocytic.
(2) ↑ESR & CRP.
(3) ↓ Albumin.
(4) Electrolyte Imbalance.
(5) AST + ALT → Hepatitis.
(6) Creatine & Urea Nitrogen
(7) ↑ Fecal calprotectin (Neutrophil in intestine release during inflammation).

Bacteriology

→ Exclude infections by Microscopy for ova & Parasites of Salmonella, Shigella, Yersinia pestis, Camphylobacter jejuni, E. Coli
→ Antigen testing for Giardia lamblia.
→ Entameba histolytica → Travel to endemic countries.
Clostridium difficile → after antibiotics.
→ In Ulcerative colitis STD checked.

Imaging → Not sensitive than colonoscopy.
Barium Enema as a contrast.

Ulcerative Colitis
↳ Mucosal edema → Thumb printing
Severe Cases → Ulcer in submucosa
↳ Collar button ulcers
→ Lead Pipe sign.

In Severe Case Barium Enema not done because it causes Toxic megacolon

Crohn's disease

↳ Strictures → String sign

Seen on X-ray with Barium swallow and narrowing of lumen of Bowel lumen due to irreversible narrowing in Crohn's disease

Endoscopy

① Wireless capsule endoscopy

↳ Nodularity. Ulcers & String sign.

② Colonoscopy & Biopsy.

Crohn's disease

→ Skip lesion · Cobblestone appearance.

→ Transmural.

Ulcerative colitis

- Mucosa only. Pseudopolyps. Crypt abscess.

Management

① Treating acute attacks.

② Prevent relapses.

③ Prevent bowel damage & malabsorption.

④ Prevent Carcinoma.