Abdominal pain

1. By location

RUQ - gall bladder, hepatitis, pancreatitis

RLQ - IBD, IBS, infectious colitis, constipation

LUQ - stomach ulcer, pancreatitis, gastritis

LLQ - diverticulitis, IBD, IBS, constipation, colitis

2. Irritable bowel syndrome (IBS)

- Bowel function disorder ⇒ Δ in bowel habits (D, constipation, abd pain w/ bloating, rectal urgency)
- can be associated w/ non intestinal symptoms - sexual dysfunction (pain during intercourse or lack of libido), muscle ache, fatigue, fibromyalgia, headache, back pain, urinary urgency / hesitation, feeling of spasm in bladder
- not risk factor for GI disease (ex) IBD)

3. IBS pathophysiology

- Sx of IBS is from disordered sensation or abnormal function of small / large intestine
  - ① LLQ abd pain after meal or w/ stress,
  - ② Δ bowel habits (diarrhea, constipation)
  - ③ Tenderness at LLQ / umbilicus / epigastric area
- Lab test - CBC, ESR

* IBS is not organic disorder, no stool test needed

- In general
  - ① alternating D/C w/ pain
  - ② D w/o pain
- CBC / ESR should be normal
- Thyroid test, image, stool studies are not indicated

4. IBS diagnosis

- H&P showing
  - ① ↑ bowel symptoms w/ pain
  - ② Relief pain after BM

③ sense of incomplete BM

④ heightened sensation during BM

⑤ No Fever or bleeding

5. IBS treatment

° Find the symptom pattern (IBS-C, IBS-D, IBS-C/D)

° Implement diet Δ, lifestyle Δ, ↓ stress

° No definitive tx for IBS but to improve sx

6. IBS anti-diarrheals ° For moderate to severe IBS

① Loperamide (Immodium) 2mg or diphenoxylate (Lomotil) 2.5~5mg Q6H for short term

② Do not use tincture of opium, codeine, paregoric to avoid addiction ° paregoric = tincture of opium

7. IBS - constipation

① First-line tx - high fiber diet/hydration, exercise, bulking agent

② Short term Rx - lactulose, $Mg(OH)_2$

③ All fail then → Linzess (Linaclotide), Trulance (Plecanatide), Amitiza (Lubiprostone) ° ↑ Intestinal fluid secretion → ↑ fecal transit

8. IBS w/ pain ° ⇒ by spasm of abd.

① Antispasmodics - Bentyl (dicyclomine) 10~20mg TID-QID PRN or Levsin (hyoscyamine) 0.125-0.75mg BID for after meal pain

+ Avoid anticholinergics on pt w/ BPH & glaucoma due to ADR ° BPH + antichol. ⇒ urinary retension

① TCA & SSRI w/ good outcome of IBS ° Glaucoma + antichol. ⇒ pupil dilation block

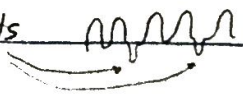
IBD

1. Inflammatory Bowel Disease (IBD)

- Chronic immunological disease ⇒ intestinal inflammation.
  ⇒ ulcerative colitis (UC) & Crohn's disease (CD)
  ① UC - inflamed mucosal surface of colon ⇒ erosion, bleeding, friability @ colon & rectosigmoid
  ② CD - inflammation extends to deeper wall from mouth to anus, presents "skipped lesions"
- IBD caused by - viral, bacterial, allergic, genetic ⇒ production of antibodies attacking intestine

2. IBD symptom

- Fever, rectal bleeding, leukocytosis, diarrhea, cramping, visualized w/ CT or colonoscopy
  ① Crohn's disease - abnormal immune response ⇒ tissue damage ⇒ fibrosis ⇒ thicken wall, narrowing lumen ⇒ obstruction, fistula, ulcer
  - Sx - cramping, fever, anorexia, wt loss, spasm, flatulence, RLQ pain or mass, bloody/mucus in stool
    - Sx ↑ w/ stress, fatty/spicy/dairy food, sx on/off
  - PE - RLQ tenderness (appendicitis), mass of RLQ, perianal or anal fissure
  ② Ulcerative colitis - inflammatory response ⇒ form ulcer by eroded tissue, abscesses from crypts → necrotic/ulcerate ⇒ perforation
  - Sx - bleeding, cramping, urge to BM, D w/ blood,

- Friability - Breaking into smaller pieces
- ileitis - small intestine
- ileocolitis - small & large intestine
- Gradual onset
- crypts 

mucus, fecal leukocytes, anemia, hypovolemia, LLQ tenderness.

- PE - Tenderness LLQ, guarding, abd distension, severe case will show peritonitis

3. Diagnosis & Testing IBD

- Dx starts w/ infectious cause of colitis
- Image is necessary to distingnish CD & UC
  - ↳ Sigmoidoscopy, colonoscopy, Ba enema w/ small bowel follow through, CT

- Mild form - < 4 loose stool/day, cramp relief after BM
- Moderate form - 4~6 loose stool/day w/ blood & mucus
- Severe form - 6~10 loose stool/day, anemia, hypovolemia impaired nutrition

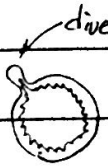
4. Treatment

- Done by GI specialist
- Mild case of IBD - 5-aminosalicylic acid agent (5-ASA) for UC
- Anti-diarrheals but can cause constipation, not use for UC
- Moderate/sever IBD - if 5-ASA doesn't control inflm ⇒ corticosteroid (prednisone or hydrocortisone) therapy
- If corticosteroid therapy fail → Immunomodulator (Azathioprine, methotrexate, 6-mercaptopurine) is used
- Anti-TNF (anti-tuma necrosis factor) therapy for moderate to severe IBD.

- Steroid tx for 8-16 week then 2-4 week taper off
- Bone marrow suppression ⇒ ↑ risk of infection
- ex) Remicade (infliximab), humira (adalimumab), Entyvio (vedolizumab)

Diverticular disease

- Inflammation of diverticular mucosa
- form at weaken wall of intestine where arterial vessels perforate the colon



- Diverticulosis - condition of having diverticula
  - diverticula is asymptomatic & can form anywhere in intestine (commonly ⓛ side of large intestine), only cause problem when inflamed
- Diverticulitis - inflamed diverticulosis by infection ⇒ rupture

① Sx - LLQ pain/tenderness, if not tx ⇒ peritonitis fever, diarrhea, N/V, firm/fixed mass, ⊕ Blumburg sign, ⊕ occult blood

② Lab test - leukocytosis, ↓ H&H (⇒ by rectal bleed), x-ray show free air or iliews obstruction, CT w/ oral or IV contrast (sensitive test)

③ Tx - 10-14 days of Metronidazole 500 mg TID + ciprofloxin 500 mg BID or trimethoprim/sulfamethoxazole (Bactrim DS) 160/800 mg BID

④ F/U - upon completion of abx, close monitor as abscess & perforation can occur

Constipation

- ⇒ abd pain & bloating
- ⇒ by IBS, colorectal cancer
- Drug induced - narcotic pain med, TCA, SSRI, Fe, antispasmodics, anticholinergics, antidiarrheals, antipsychotics, Ca supp.

I. Treatment

① Initiate w/ - ↑ fluid ± fiber

② Laxative, stool softener
↳ miralax is safe for longterm use

③ Bulking agents (psyllium + methylcellulose)

④ For opioid-induced constipation - Movantik (naloxegol) 25mg once in AM or empty stomach, Relistor (methylnaltrexone) 450 mg once daily.

Colon cancer screening guidelines

- High-risk individual - screening before age of 50
  - hx colorectal cancer or adenomatous polyps
  - hx IBD
  - Fam Hx colorectal cancer or polyps
  - Fam Hx hereditary colorectal syndrome
    - familial adenomatous polyposis (FAP)
    - Lynch syndrome (hereditary nonpolyposis colon cancer)
- > 50 yr old - colonoscopy
- African Americans - higher chance of develop in early age.
  screen @ 40 yr old
- pt w/ unintentional wt loss, rectal bleeding, diffuse abd pain, new onset of severe D or constipation, early satiety, or loss of appetite → refer to GI