GUILD

Gastroenterology Updates • IBD • Liver Disease

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IBD : Diagnosis and Prognosis

Aline Charabaty, MD, AGAF, FACG
Assistant Clinical Director of the Division of Gastroenterology
Johns Hopkins School of Medicine
Clinical Director of the IBD Center
Johns Hopkins-Sibley Memorial Hospital
Washington DC

@DCharabaty
@MondayNightIBD

Disclosures

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- Consultant and/or advisory board and/or educational grants from
- Abbvie, Pfizer, Janssen, Takeda, BMS
- Founder of @MondayNightIBD

IBD: Diagnosis and Prognosis

JOHNS HOPKINS MEDICINE

- Definition and epidemiology
- Clinical manifestations
- Diagnosis
- Assessing severity of disease and Prognosis
- Goals of care

IBD Definition

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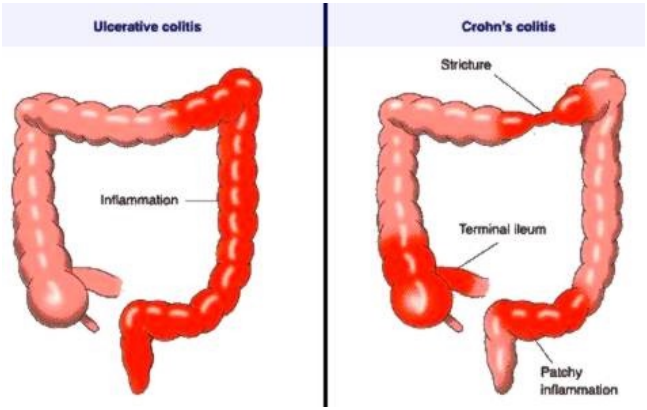
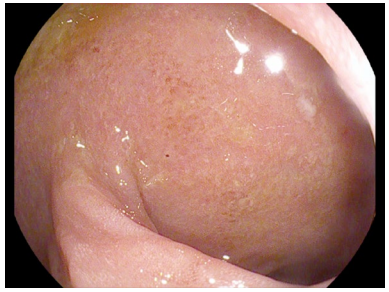
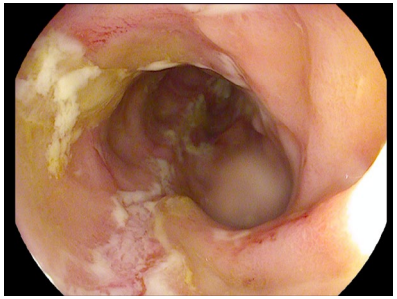
- Chronic inflammation of the GI tract
  - Ulcerative Colitis (UC): colon only, starts in rectum, continuous inflammation, mucosa and submucosa
  - Crohn's Disease: anywhere in the GI tract, patchy inflammation, transmural inflammation
- Acute flare-ups alternating with remission
- Extra-intestinal manifestations

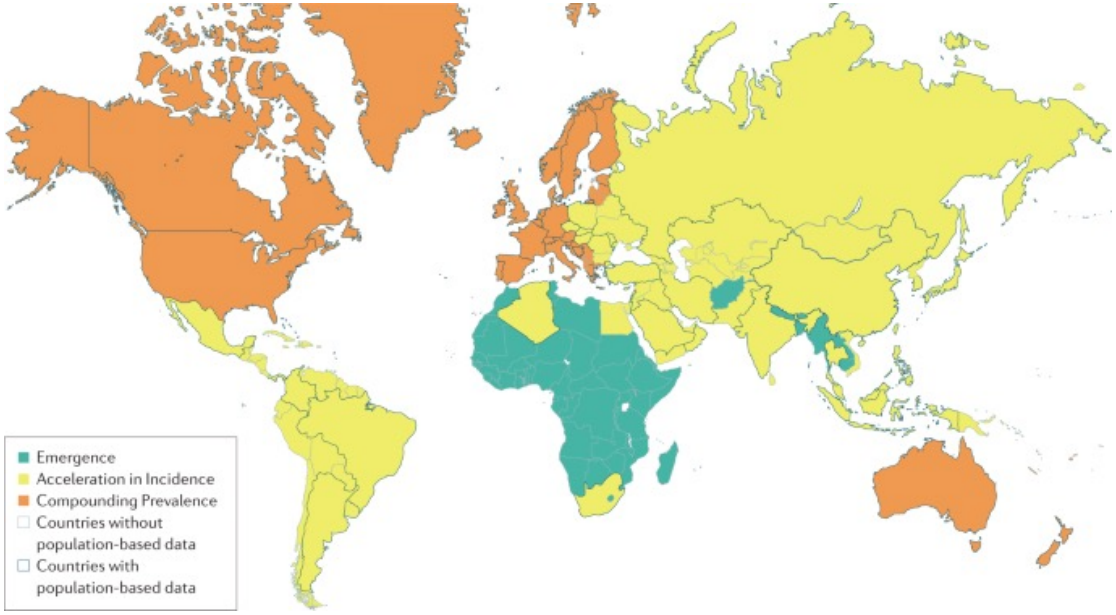






IBD Epidemiology

- 1.6-3M people in the US have IBD
  - Incidence and prevalence increasing in different regions around the world
  - Increase incidence in minorities, immigrants
- Bimodal age distribution: 15-30 / 50–70
- Smoking: ↑risk of CD
- 5-10% pts have 1st deg. relative with IBD



Kaplan G et al. Nature Reviews Gastroenterol & Hepatol2021; 18: 56–66

IBD: Clinical Manifestations

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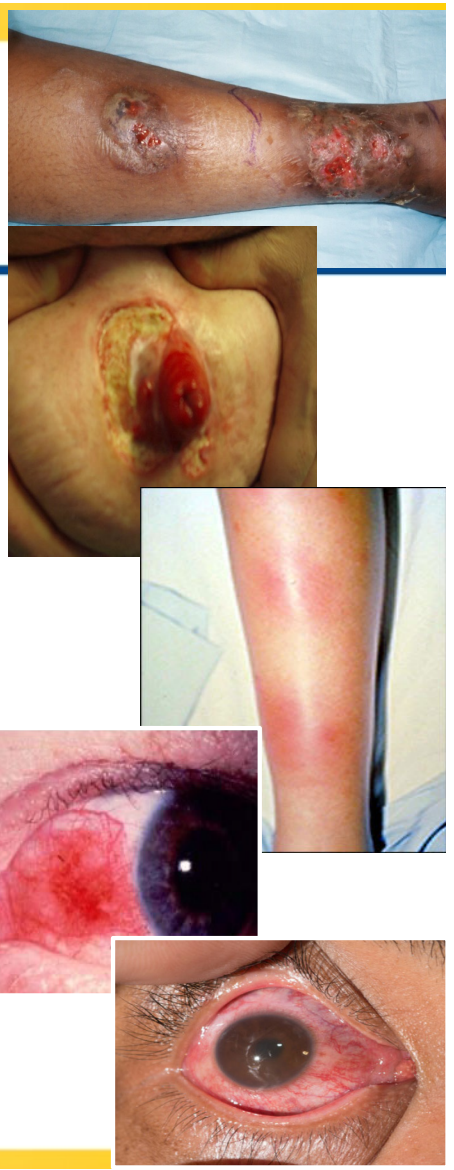
- GI symptoms
  - Diarrhea
  - Abdominal pain
  - Blood in the stool (++UC)
  - Tenesmus
  - Urgency
  - Incontinence
- Crohn's disease
  - Stricture and SBO
  - Fistula (bowel-viscus)
  - Intra-abdominal abscess
  - Perianal abscess
- Systemic symptoms
  - Fever
  - Weight loss , Failure to thrive
  - Fatigue

IBD: Extra-intestinal Manifestations

System	Parallels bowel disease activity	Independent from bowel disease activity
Joint	Peripheral arthritis type I (few large joints)	Axial arthritis (sacroiliitis, ankylosing spondylitis) Peripheral arthritis type II (multiple small joints)
Skin	Erythema nodosum	Pyoderma gangrenosum
Occular	Episcleritis (non-urgent)	Scleritis, Uveitis (painful red eye, blurred vision, urgent)
Hepatobiliary		PSC (primary sclerosing cholangitis)



IBD: Diagnosis

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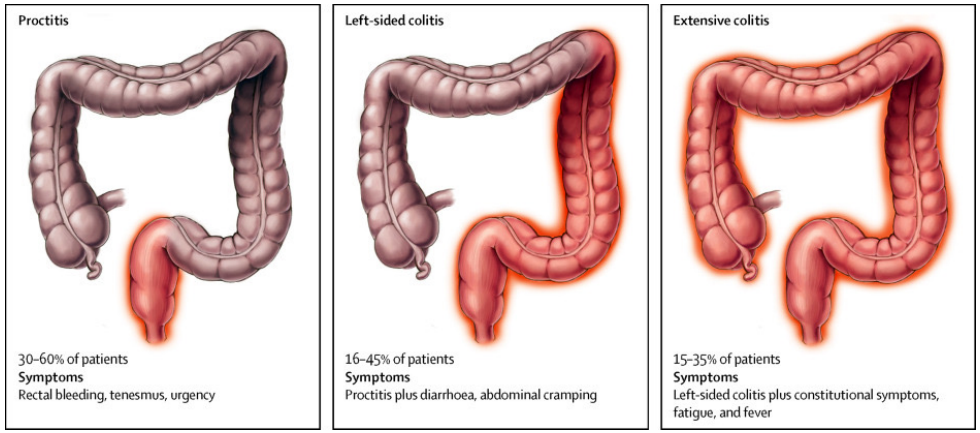
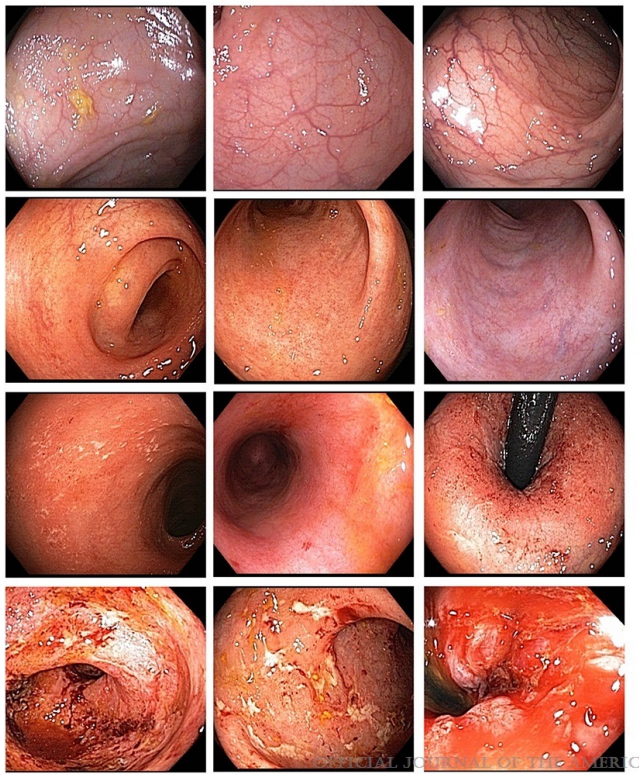
- Clinical manifestations
- Colonoscopy
  - Assess type, extent and severity of inflammation
- Crohn's disease:
  - EGD
  - Small bowel imaging: CT or MR Enterography; Video Capsule
- Imaging
  - Complications of Crohn's disease; SBO, abdominal abscess – CT
  - Imaging of the SB
  - Perianal disease – MRI pelvis (not CT)

UC Assessment : Colonoscopy



UC can be a progressive disease
- Proximal extension
- Severity of inflammation

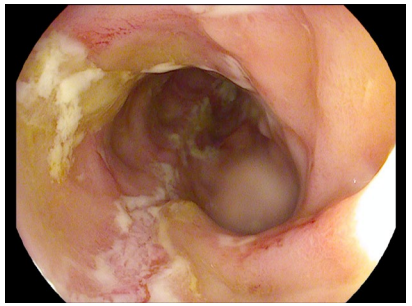


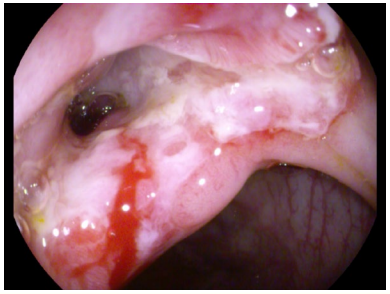
Endoscopic Assessment of Disease Activity	UCEIS Score	Mayo Score	Endoscopic Features
	0	0	Normal
	1-3	1	Erythema, decreased vascular pattern, mild friability
	4-6	2	Marked erythema, absent vascular pattern, friability, erosions
	7-8	3	Spontaneous bleeding, ulceration

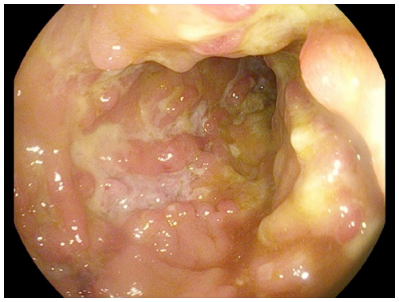
Rubin DT, et al. *Am J Gastroenterol*. 2019;114(3):384-413.
Ungaro R et al. Lancet 2017

Crohn's disease Assessment: Scope

Age at diagnosis (A)			
A1	16 years or younger		
A2	17–40 years		
A3	Over 40 years		
Location (L)		**Upper GI modifier (L4)**	
L1	Terminal ileum	L1 + L4	Terminal ileum + Upper GI
L2	Colon	L2 + L4	Colon + Upper GI
L3	Ileocolon	L3 + L4	Ileocolon + Upper GI
L4	Upper GI	–	–
Behaviour (B)		**Perianal disease modifier (p)**	
B1*	Nonstricturing, nonpenetrating	B1p	Nonstricturing, nonpenetrating + perianal
B2	Stricturing	B2p	Stricturing + perianal
B3	Penetrating	B3p	Penetrating + perianal







Imaging for Crohn's Complications: Stricture and Abdominal Abscess

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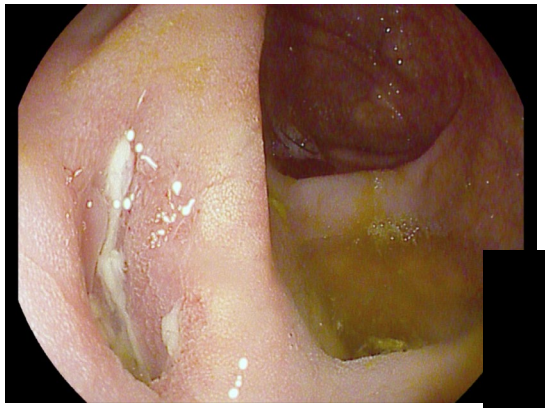
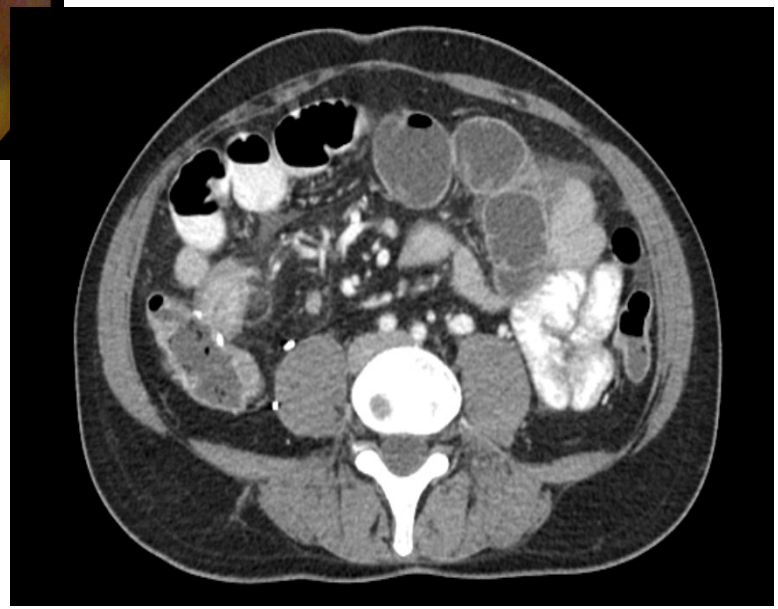
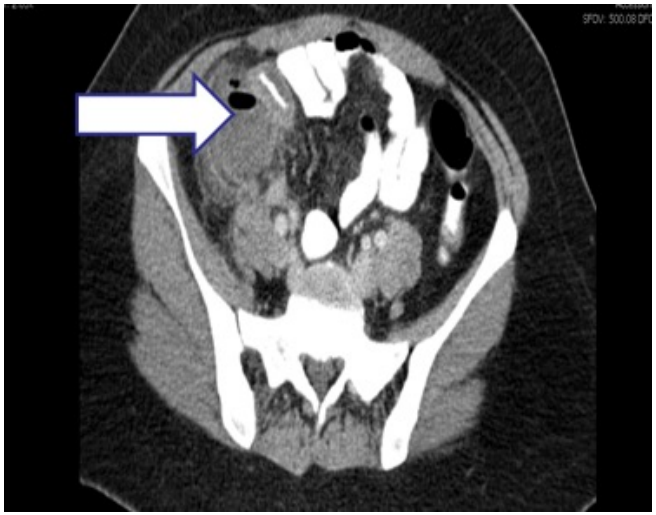
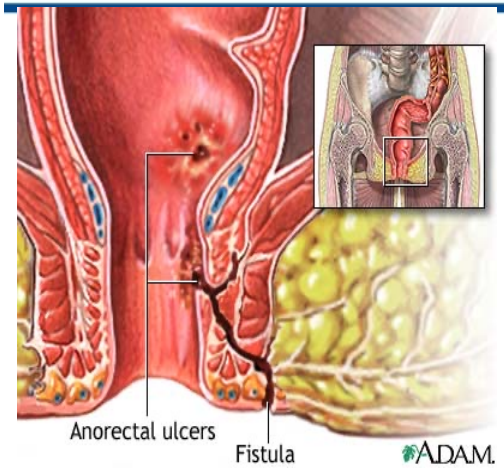
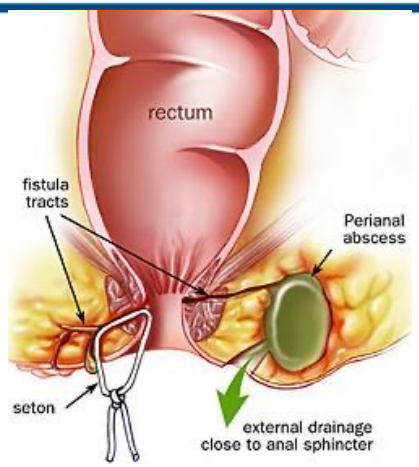


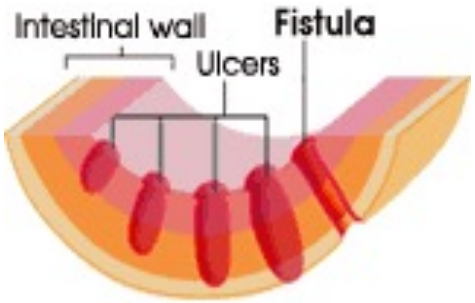




Imaging for Crohn's Perianal Disease







- MRI pelvis (not CT)
- Colorectal Surgery
- Abscess drainage
- Seton placement
- Antibiotics
- Medical therapy/ Anti-TNF

Evaluation of an IBD Flare

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Disease Activity

Cross-sectional assessment

- Symptoms (GI, EIM)
- Biomarkers of inflammation: CRP, FCP
- Endoscopic findings

How is your patient TODAY?

Disease Severity

Longitudinal assessment

- Prior flare behavior
- Disease course

What has your patient's disease course been like since diagnosis?
HISTORY -> PROGNOSIS

Choose the right therapy, determine appropriate monitoring and change the natural history of the disease

Peyrin-Biroulet L, et al. *Clin Gastroenterol Hepatol*. 2016;14(3):348-354.e17.

ACG: New Ulcerative Colitis Activity Index

	Remission	Mild	Moderate-Severe	Fulminant
Stools (#/day)	Formed stools	< 4	> 6	> 10
Blood in stools	None	Intermittent	Frequent	Continuous
Urgency	None	Mild, occasional	Often	Continuous
Hemoglobin	Normal	Normal	< 75% of normal	Transfusion required
ESR	< 30	< 30	> 30	> 30
CRP (mg/L)	Normal	Elevated	Elevated	Elevated
Fecal calprotectin (µg/g)	< 150-200	> 150-200	> 150-200	> 150-200
Endoscopy (Mayo subscore)	0-1	1	2-3	3
UCEIS	0-1	2-4	5-8	7-8

Rubin DT, et al. *Am J Gastroenterol*. 2019;114(3):384-413.

Crohn's Disease Activity Index (CDAI)

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Variable No.	Variable Description	Multiplier
1	**No. of liquid or soft stools (each day for 7 days)**	X 2
2	**Abdominal pain (0 = none, 1 = mild, 2 = moderate, 3 = severe)**	X 5
3	**General well-being (0 = generally well, 1 = slightly under par, 2 = poor, 3 = very poor, 4 = terrible)**	X 7
4	**Number of listed complications [arthritis or arthralgia, iritis or uveitis, erythema nodosum or pyoderma gangrenosum or aphthous stomatitis, anal fissure or fistula or abscess, other fistula, fever over 37.8°C (100°F)]**	X 20
5	**Use of diphenoxylate or loperamide for diarrhea (0 = no, 1 = yes)**	X 30
6	**Abdominal mass (0 = no, 2 = questionable, 5 = definite)**	X 10
7	**Hematocrit [Males: 47-Hct (%), Females: 42-Hct (%)]**	X 6
8	**Body weight (1-weight/standard weight) X 100 (add or subtract according to sign)**	X 1

- Remission < 150
- Mild-Moderate 150-220
- Moderate to Severe: 220-450
- Severe > 450

IBD Flare: Clinical Assessment

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GI Symptoms

- #BM: differentiate profuse diarrhea vs tenesmus
- Blood: streaks vs clots vs bleeding without BM
- Abdominal pain: before BM vs constant vs symptoms of SBO in CD
- Nocturnal symptoms
- Urgency and Stool incontinence

But Also ….

- Weight loss
- Fatigue
- EIM
- SH + Smoking
- Effect on daily, personal & professional life/ emotional health / dietary limitations
- Comorbidities
- Overall clinician assessment

IBD Flare: Lab work

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Routine labs:

- Hb – Acute/ Chronic blood loss
- Albumin – negative inflammatory marker, protein loosing enteropathy
- High platelet: marker of anemia, reactive inflammatory marker

Prepare for biologic or small molecule Rx

- HepB
- TB
- Lipid panel
- VZV serology

R/o infectious colitis

- Stool Culture
- C.Difficile

Chang S et al. World J Gastroenterol 2015;21(40)

IBD flare: Cdifficile Testing

- CDI causes 5-20% of IBD flare

- Younger than non-IBD patients
- Community acquired
- No antibiotic exposure

- If +, treat with PO Vancomycin
  - 14 days or longer course

- ↑ Severity of CDI in IBD vs non-IBD

- ↑ x6 risk of colectomy in CDI in IBD vs non-IBD

  – ↑ 5-year risk of death/colectomy after hospitalization UC-CDI

Jodorkovsky et al. Dig Dis Sci 2009
Ananthakrishnan A.N. et al Gut 2008
Khanna S et al. Clin Gastroenterol Hepatol. 2017

IBD Flare and Cdifficile

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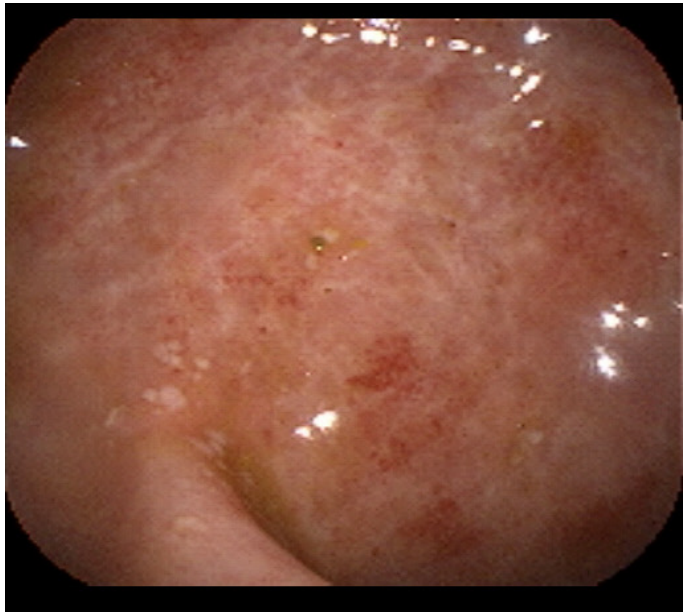
- CDI Non-IBD patient

CDI in IBD patient



IBD Flare: Objective Inflammatory Markers

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- Why ?
  - Poor correlation symptoms/activity
    - Symptoms due to other causes
    - Active disease without symptoms
  - Marker of disease activity (FCP)
  - Monitoring of Rx response

→ CRP
  → Can be Normal in 25% Crohn's
  → Often Normal in isolated SB Crohn's
  → ESR can be a substitute

→ Fecal calprotectin
  → Sensitive 88%
  → Specific 75%
  → FCP > 50 mcg/g IBS vs Inflammatory conditions
  → FCP > 150mcg/g in IBD

→ Lactoferrin > 7.25 mcg/ml

Colombel JF et al, Gut 2017;66:2063–2068

IBD: Severity and Prognosis

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CD: Risk factors for Complications

- Prior Biologics
- Corticosteroid dependent
- Prior Surgeries
- High CRP, Low Hb
- Extensive disease
- UGI involvement
- Deep ulcers
- Perforating/stricturing complications
- Perianal disease

Does the patient have any high risk factors?

UC: Risk factors for Colectomy

Age <40
Corticosteroid dependent
Hospitalization
High CRP/ESR
Low albumin
C difficile , CMV infection
Extensive colitis
Mayo endo 3, UCEIS =>7

Does the patient have any high risk factors?

CD and UC are progressive diseases = Disease severity/prognosis change over time

Peyrin-Biroulet L, et al. *Clin Gastroenterol Hepatol*. 2016;14(3):348-35

IBD Goals of Care

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- Induce and maintain Clinical remission
- Endoscopic remission
- Prevent disease complications: hospitalization, surgery, recurrent steroid use
- Manage EIM
- Minimize medications SE
- Optimize patient QOL, emotional health and wellness

IBD: Impact on Patient Emotional Health QOL and Wellness

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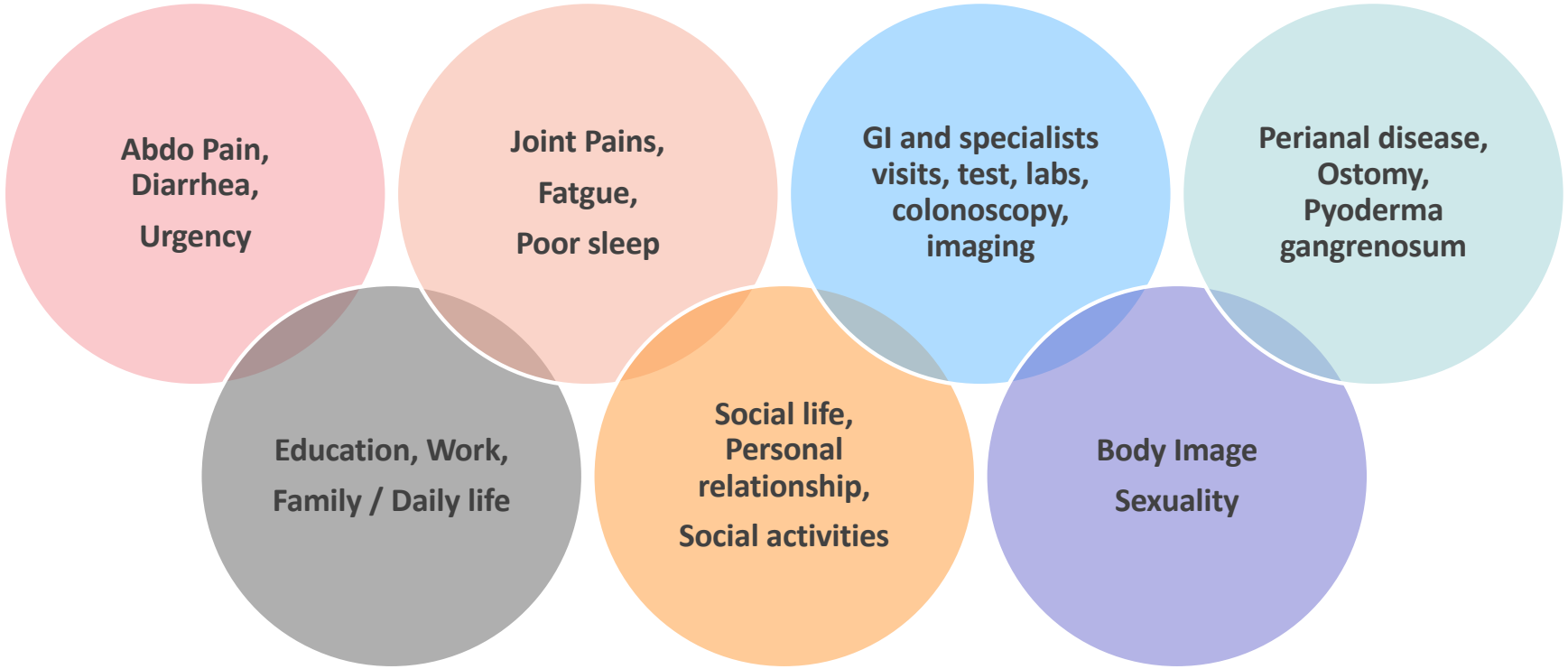

IBD: Diagnosis and Prognosis → Choosing the Right Medication for the Patient