Understanding and Treating Chronic Diarrhea

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Disclosure:

- none

Objectives

To identify the common sources of chronic diarrhea including:

- irritable bowel syndrome
- inflammatory bowel disease
- pancreatic insufficiency
- post cholecystectomy diarrhea
- celiac disease
- microscopic colitis

To classify treatment options

Jeffrey

- Age 56, just had a laparoscopic cholecystectomy 7 days ago and now has up to 7 loose, non bloody bm's per day

- PE, bloods and stools all negative

Which medicine might you suggest and why?

1. Loperamide
2. Cholestyramine/Colestipol
3. Pancrealipase

Post Cholecystectomy Diarrhea

- Due to effect of bile which stimulates water secretion and increased motility
- May take weeks/months to resolve

Sauter GH et al
Bowel habits and bile acid malabsorption in the months after cholecystectomy
Am J Gastroenterol 2002:97;1732

What are the key questions to ask about chronic diarrhea?

What are the key questions to ask about chronic diarrhea?

- Meds
- Travel history
- Patient's definition of chronic diarrhea
- Alarm features like rectal bleeding, anemia, wt loss and fever
- Diet
- Family history of Ca or Inflammatory Bowel Disease

Which of the following medications does **NOT** cause diarrhea?

1. Metformin
2. Erythromycin
3. Lansoprazole (Prevacid)
4. Sucralfate

Describe how these are related to Inflammatory Bowel Disease

FOOD

STRESS

FAMILY HISTORY OF INFLAMMATORY BOWEL DISEASE

SMOKING

	Ulcerative Colitis	Crohn's
• Area of involvement	Rectum +/- colon	Entire GI track
• Type of lesion	Continuous	Skip
• Gross blood	Yes	Occasionally
• Abd pain	Occasionally	Frequently
• Abd mass	Rarely	Yes
• Systemic symptoms	Occasionally	Frequently

Poor prognostic features in Crohn's

- Admission with intestinal obstruction
- Severe peri anal/fistulizing disease
- Age below 40
- Need for steroids
- Extensive disease

Poor Prognostic Features in Ulcerative Colitis

- Young age
- Non smoker
- Anemia
- Extensive disease

Can Inflammatory Bowel Disease and Irritable Bowel Disease Co Exist?

All of the following are extra intestinal manifestations of Inflammatory Bowel Disease EXCEPT:

1. Arthritis
2. Hypercoagulable state
3. Gallstones
4. Cardiomyopathy

Inflammatory Bowel Disease and Thromboembolism Risk

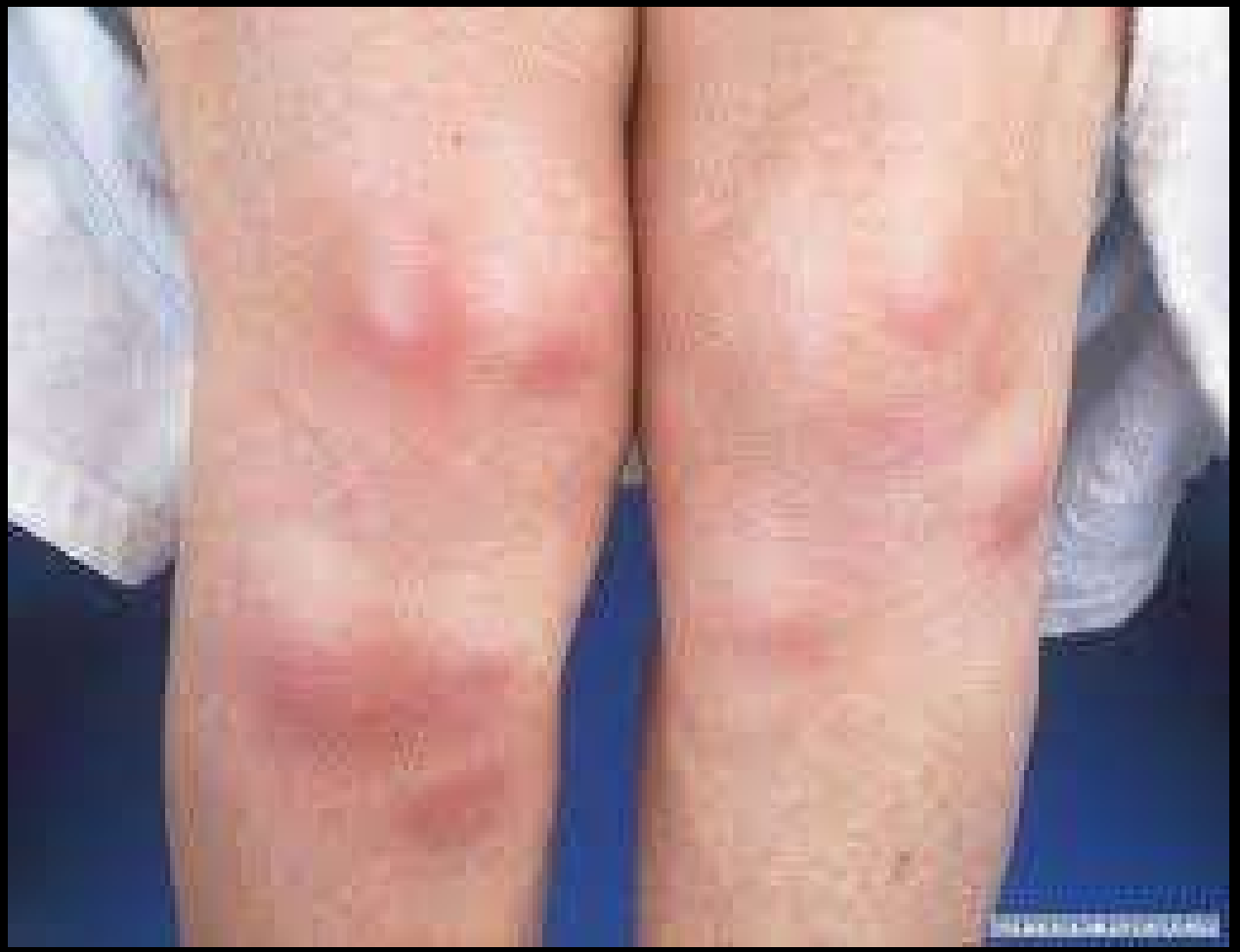
- Patients with IBD have twice the incidence of pulmonary emboli or deep venous thrombosis than the general population
- Hospitalized IBD patients have a 6 fold risk

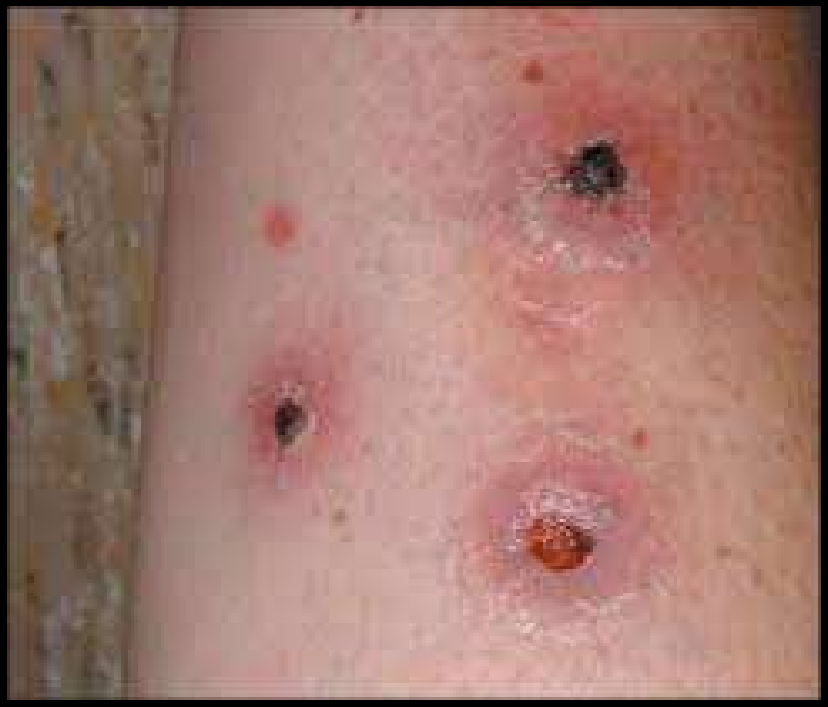
Kappelman MD et al
Thromboembolism risk among Danish children and adults with inflammatory bowel disease: a population based nationwide study
Gut 2011:60;937

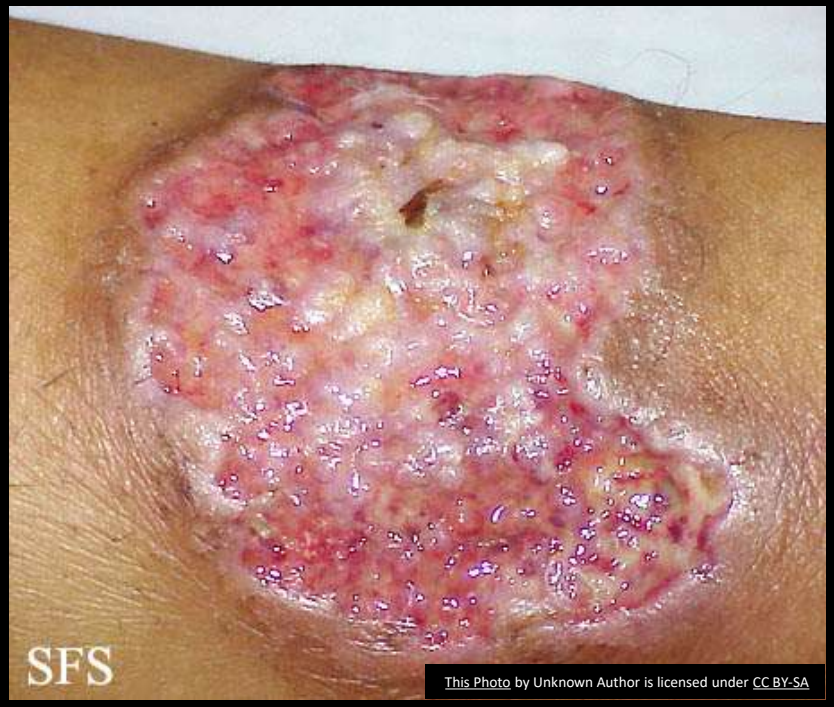
Nguyen GC et al
Consensus statement on the risk, prevention, and treatment of venous thromboembolism in inflammatory bowel disease: Canadian Association of Gastroenterology
Gastroenterology 2014:146;835

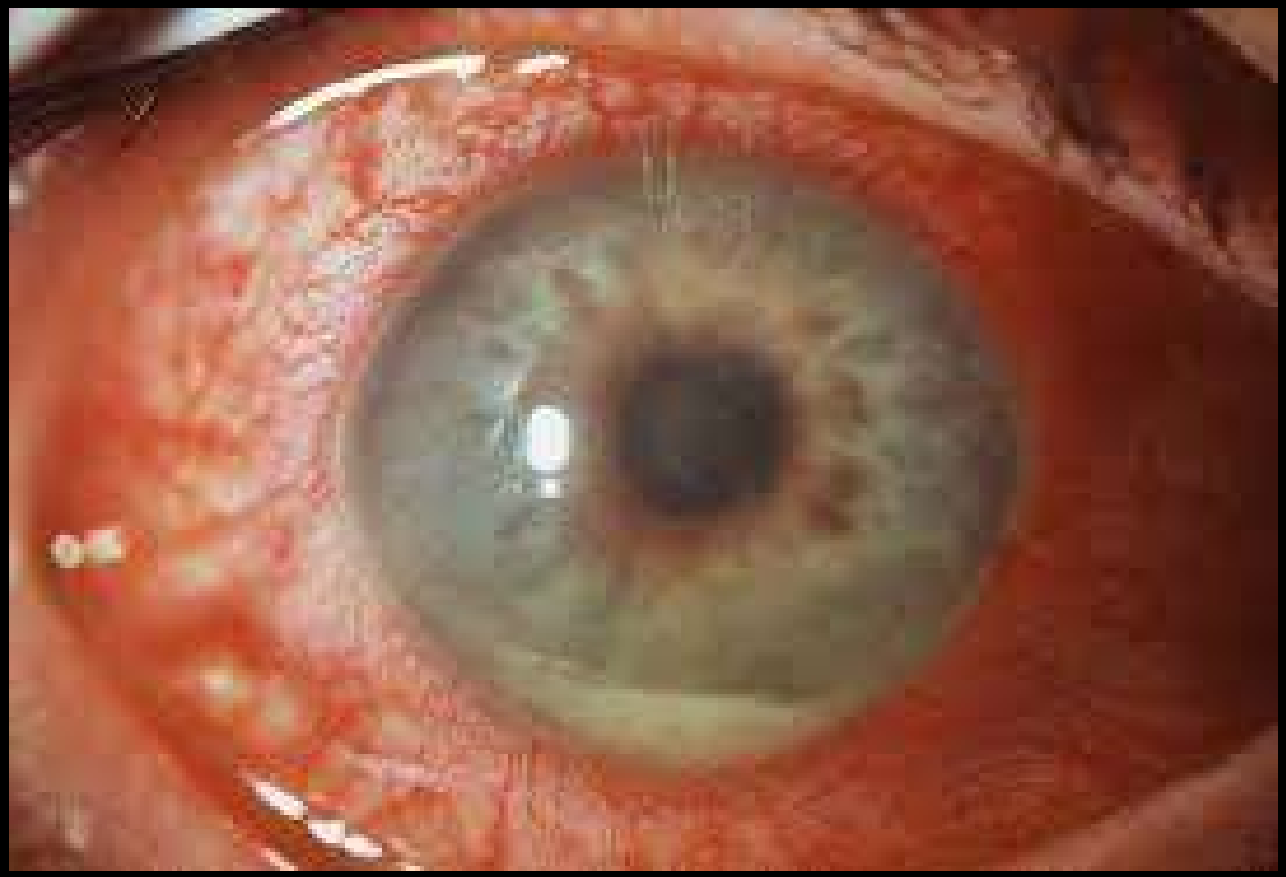
Extra Intestinal Manifestations of IBD

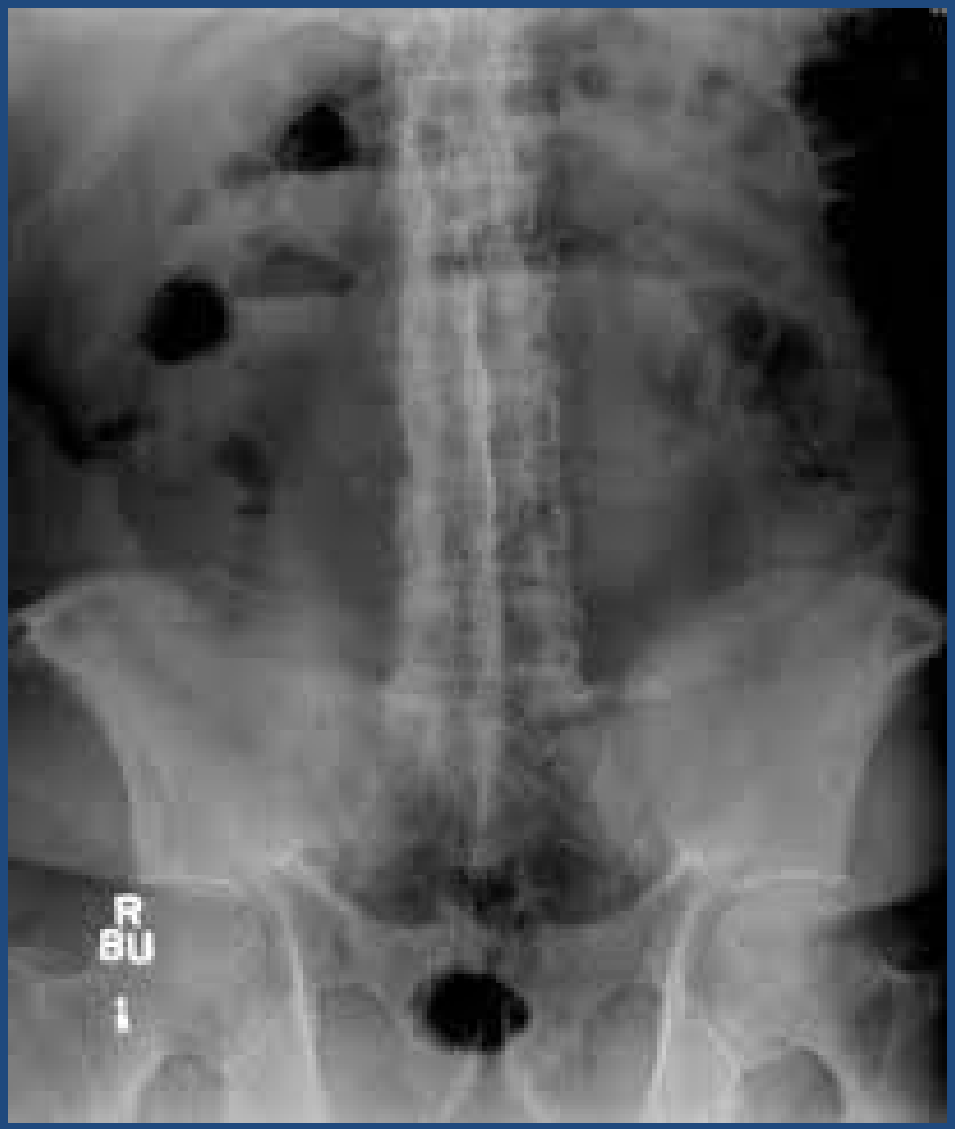
Most Common Skin Extra Intestinal Manifestation







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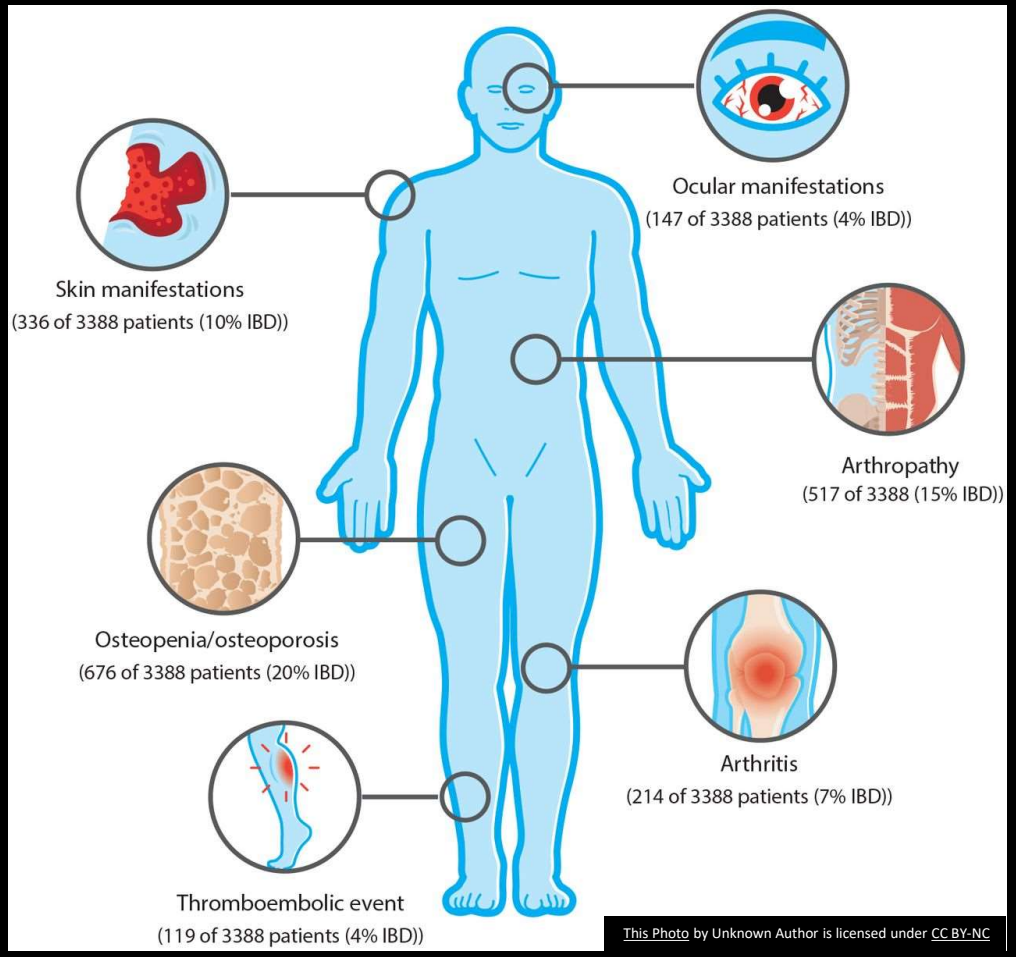
Can Extra Intestinal Manifestations of Inflammatory Bowel Disease Precede Intestinal Disease?



Between Ulcerative Colitis and Crohn's

- Which is curable and which is treatable?

Questions:

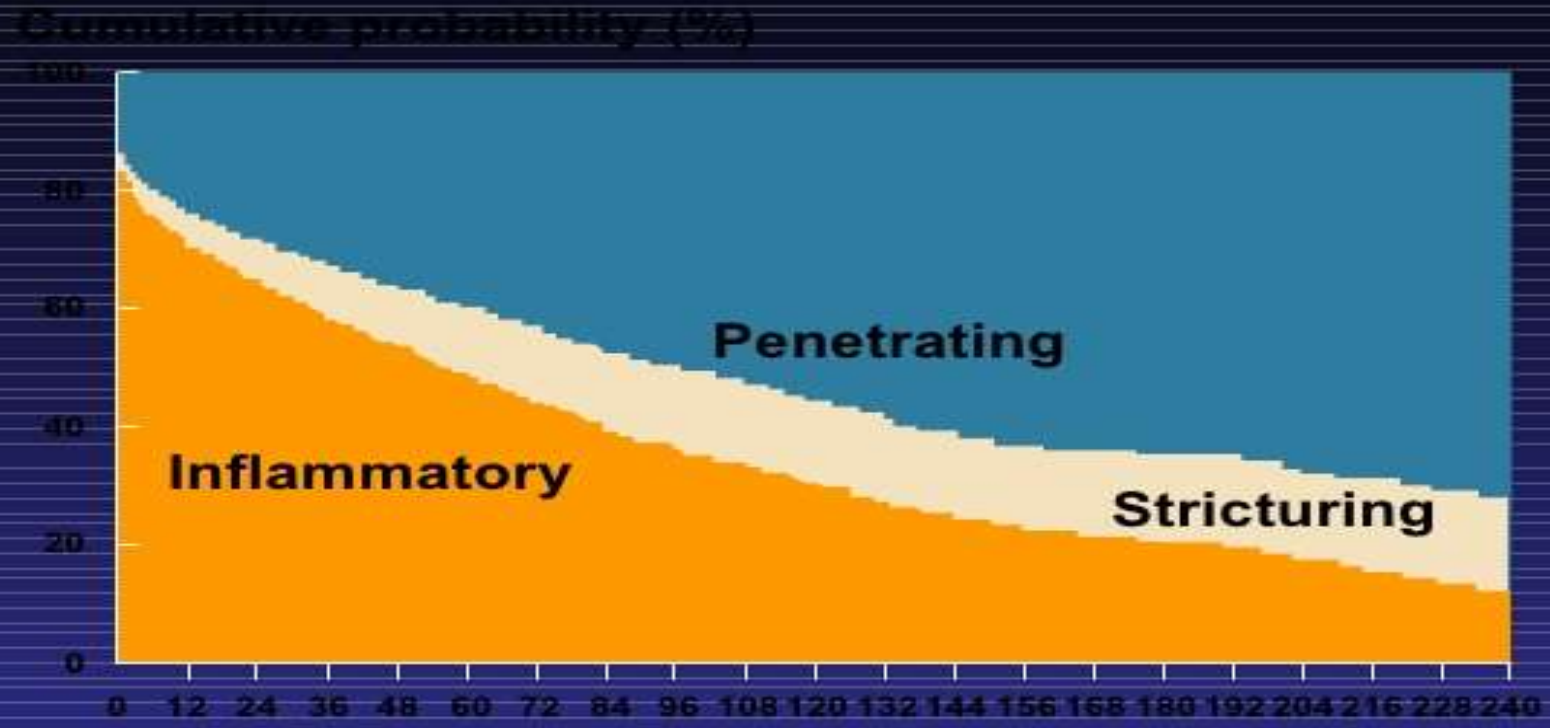
- What is the maximum Prednisone dose recommended for a patient with Inflammatory Bowel Disease?
- Should Prednisone **alone** be used intermittently to treat IBD?
- Is there any advantage for giving Budesonide (Entocort, Uceris) over Prednisone?

Risks of Steroids in Crohn's

- Failure to achieve mucosal healing
- The above allows for stricture formation
- High relapse after withdrawal
- Steroid use and CV complications

Wei L et al
Taking glucocorticoids by prescription is associated with subsequent cardiovascular disease
Annals of Internal Medicine 2004:141;764

Long-Term Evolution of Crohn's Disease is Structural Damage



Patients at risk:

n=	2002	552	229	95	37

Cosnes et al, Inflamm Bowel Dis 2002; 8: 244

How Primary Care Providers May Team Up With Gastroenterologists in Treating IBD

Screening	for osteoporosis
Screening	for depression
Screening	for GI and non GI Ca
Smoking	Smoking cessation
Keeping	Keeping up to date with vaccinations

Vaccination Recommendations in IBD

- Hepatitis A/B
- Pneumococcus
- Influenza
- Tdap (tetanus, diptheria, acellular pertussis)

Reich J et al
Vaccinating patients with inflammatory bowel disease
Gastroenterology and Hepatology 2016:12;540

More Screening

Patients with IBD, regardless of medications, are at increased risk for melanoma

Anti TNF use doubles this risk

Non melanoma skin cancer related to thiopurine use

Which of the following vaccinations are safe in immunosuppressed patients treated for IBD?

- MMR
- FluMist
- Varicella Zoster
- None of the above

Question

Under what circumstances may an anti TNF (Infliximab, Adalimumab) be stopped if a patient is doing well?

Newer concepts in IBD

- Mucosal healing rather than symptom based
- Deep remission
- Does treatment for ulcerative colitis prevent colon cancer?
- When withdrawing meds, we don’t want to wait until symptoms appear

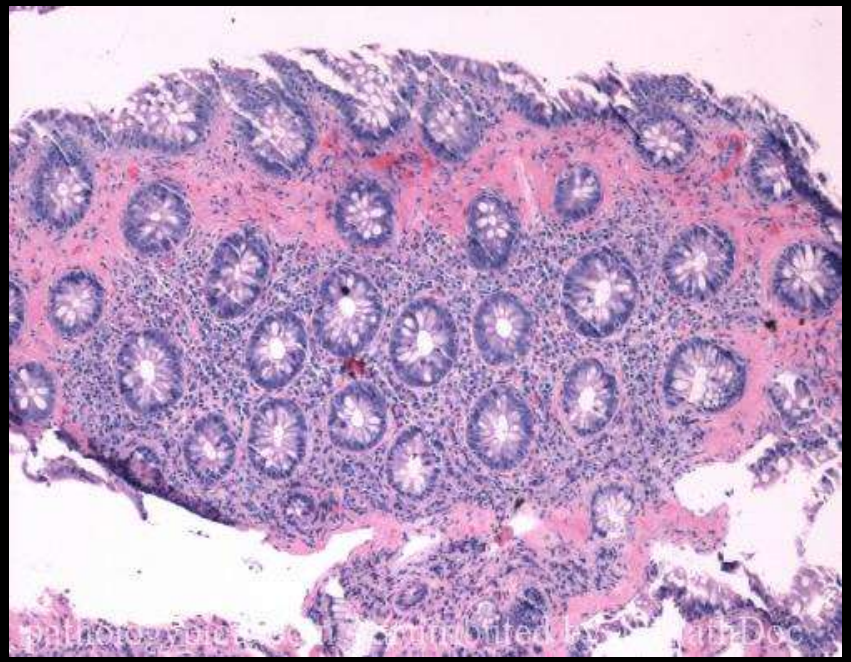
Surgery In IBD

30% of Ulcerative Colitis patients

70% of patients with Crohn's disease

What is the difference between ulcerative colitis and microscopic colitis?

Helen's story



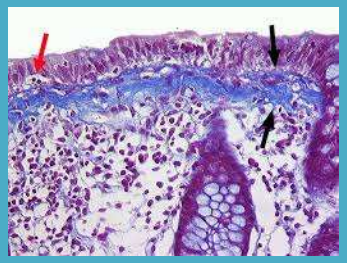
Microscopic Colitis

- Female preponderance over 65
- No obvious colonoscopic mucosal damage
- NSAIDs exacerbate the situation
- Budesonide is the preferred treatment

Microscopic Colitis Subtypes

- Lymphocytic

- Collagenous



Charlie

- Is a 71 y o male who was well until 8 months ago
- At that point, he developed profound nausea, vomiting and diarrhea after babysitting his sick grandkids
- He then needed to be admitted for dehydration

Charlie

- PE unremarkable
- Workup included bloods, stools, CT scan, colonoscopy and bx; all normal
- Although the diarrhea is much improved, he still has 7 bm's a day

- What are we dealing with?

Post infectious diarrhea

10% of patients get prolonged diarrhea

There is a genetic predisposition

How do we treat Post Infectious Diarrhea?

1. Anti diarrheal meds
2. Probiotics
3. Cholestyramine
4. All of the above

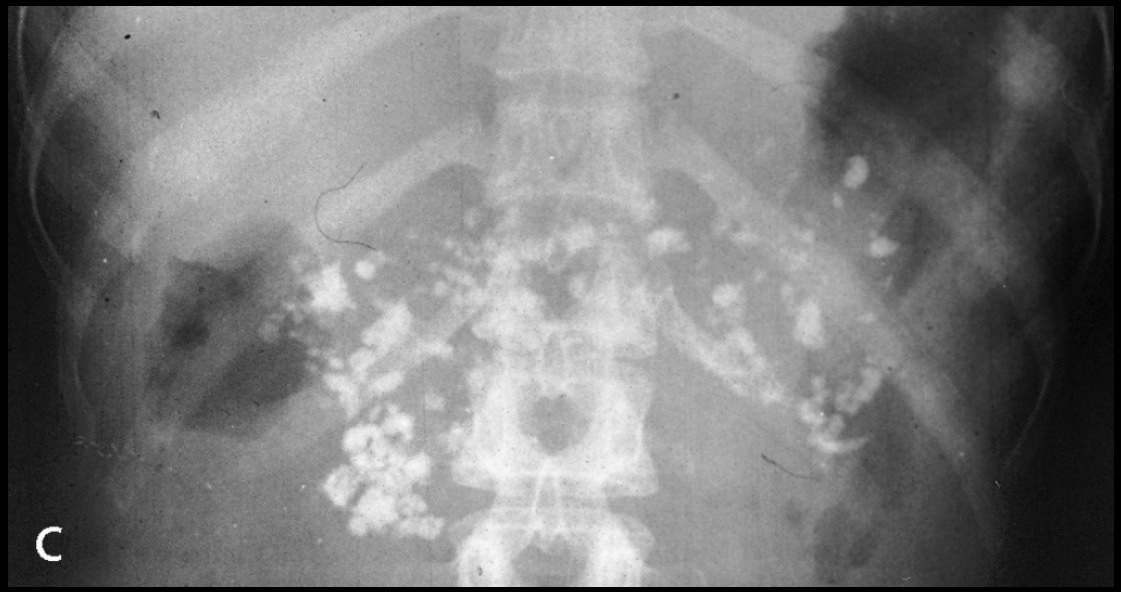
Jerry

- Is a 54 y.o male with type 1 diabetes and hbp
- He has diarrhea for the past 3 months and a 15 lb wt loss
- Smokes 2ppd
- No ETOH
- MEDS: Insulin Glargine 70 u/day and regular Insulin coverage. Also Ramipril 5 mg bid

Jerry

- PE unremarkable
- Labs: glucose 170 mg/dl
  Hgb a 1 c 8.6%
  rest of bloods normal
  Colonoscopy and bx normal

Jerry's Abdominal Film



What do we see?

What are Jerry's risk factors for this condition?

Is there a way to predict if Jerry will develop pancreatic Ca?

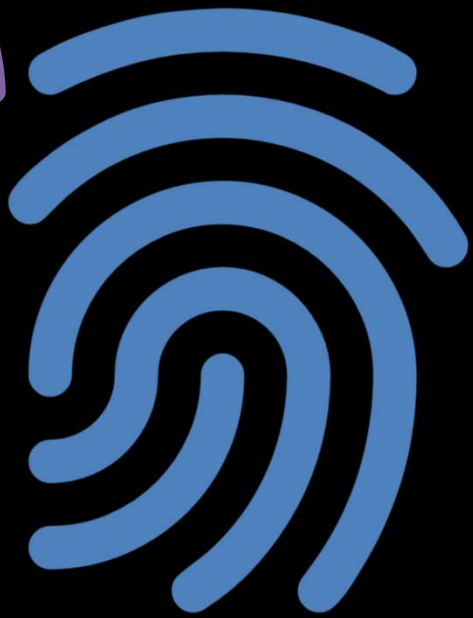
Smoking

- Causes 25% of chronic pancreatitis

Yadav D and Lowenfels AB
The epidemiology of pancreatitis and pancreatic cancer
Gastroenterology 2013:144;1252

Chronic Pancreatitis has Two Components:

- Abdominal pain
- Pancreatic Insufficiency



Pancreatic Insufficiency

A condition characterized by deficiency of exocrine pancreatic enzymes

Results in inability to digest food properly

Other Causes of Pancreatitis
(acute & chronic)


Gallstones


Hypertriglyceridemia


Familial


Post ERCP


Medications


SMOKING is a risk factor by itself and potentiates alcohol injury

Which is the best test to diagnose chronic pancreatitis?

1. MRI
2. Fecal elastase
3. ERCP
4. Ultrasound

There is no Gold Standard

- The aforementioned tests only demonstrate later disease
- The most useful diagnostic tool is a careful H & P

Fecal Elastase

- Is a protease
- Less than 200mcg/gm of stool indicates pancreatic insufficiency
- 96% sensitivity/88% specificity

Vanga RR et al

Diagnostic performance of measurement of fecal elastase – 1 in detection of exocrine pancreatic insufficiency – systematic review and meta – analysis

Clinical Gastroenterology and Hepatology Published online Feb 4, 2018

We can diagnose chronic pancreatitis with an elevated amylase/lipase

TRUE

FALSE

Medication Pearls

- Should PPIs be given with pancreatic enzymes to enhance their effectiveness?
- Are pancreatic enzymes indicated for the treatment of **pain** in chronic pancreatitis?
- Are vitamins necessary?

Emma

- Is a 34 y.o female with a 2 yr hx of foul smelling loose stools
- PMH: autoimmune thyroiditis
- ROS: headaches, chronic fatigue, depression, and body aches,

- PE Unremarkable

Emma

- H/H 10.1gm/dl 30.1%
- Fe 15 mcg/dl
- TIBC 380 mcg/dl
- TSH 2.0 m i u/l
- CRP, Gen Chem, Colonoscopy/bx ALL NEG


Any further
workup?

How would this change if you found that Emma’s first cousin has Celiac disease?

Celiac disease: Magnitude of the Problem

- Celiac disease approx. 3 million in the US

  only 300,000 on a gluten free diet

Rubio-Tapia A et al
The Prevalence of Celiac Disease in the United States
Am J Gastroenterol 2012:107;1538

Magnitude

- There has been a fivefold increase in the prevalence of Celiac disease in the past 50 years

Lebwohl B and Rubio-Tapia A
Epidemiology, presentation and diagnosis of celiac disease
Gastroenterology 2021:160;63

Why do so many Americans without Celiac disease follow a gluten free diet?

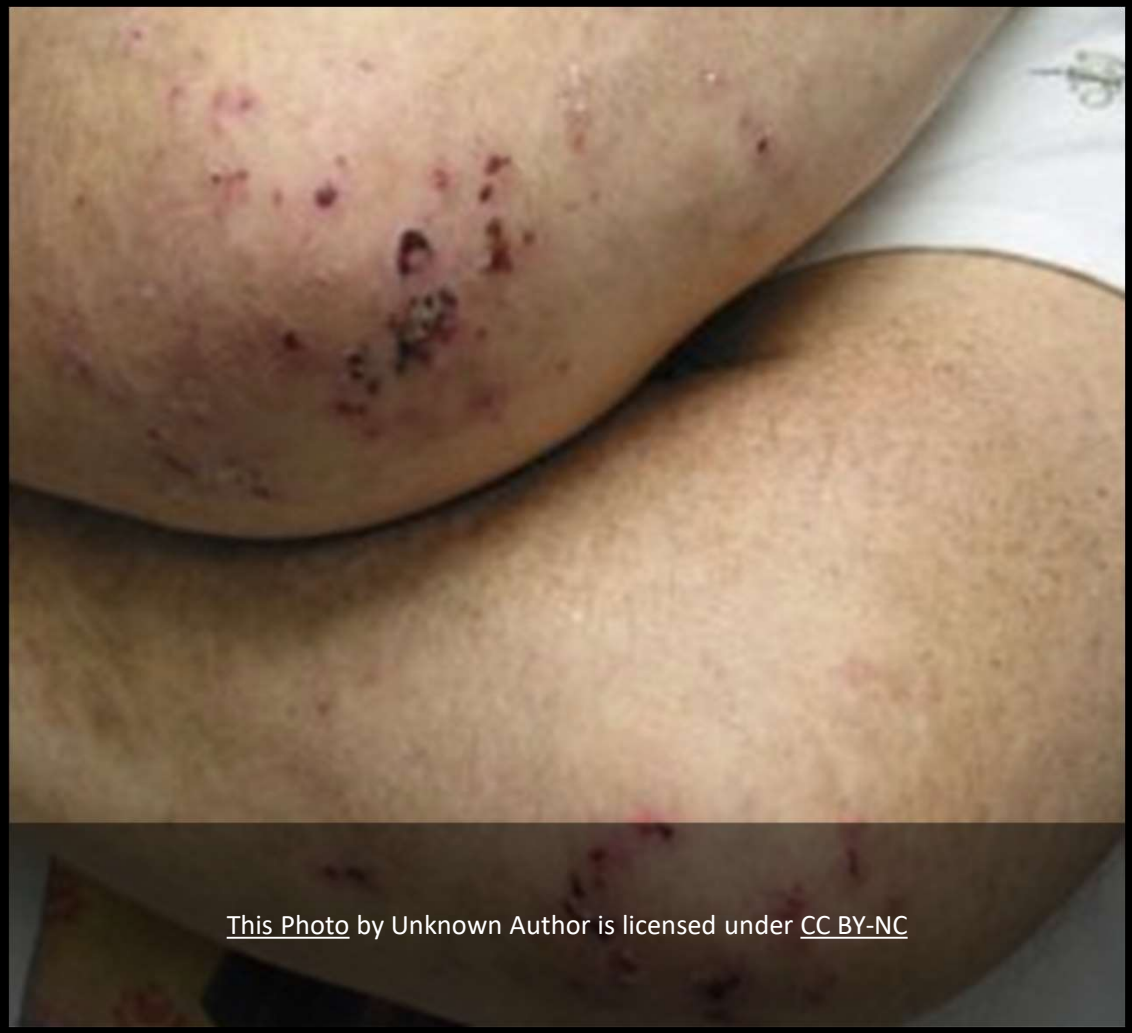
Shift from Classic to Non Classic Presentations

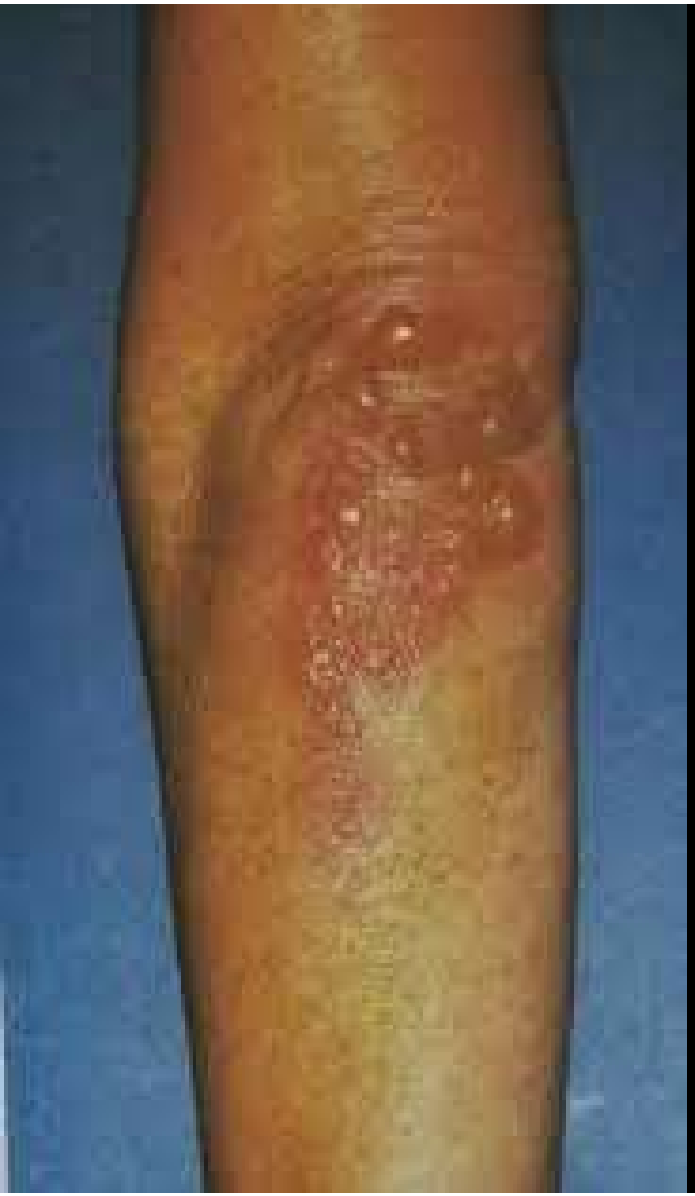
- Classic diarrhea
  weight loss
- Non Classic Increasingly Prevalent
  chronic fatigue
  peripheral neuropathy
  elevated transaminases
  reduced bone density
  unexplained infertility

All of the following contain gluten EXCEPT:

1. Beer
2. Couscous
3. Oats
4. Rye

What rash is pathognomonic for Celiac disease?





Dermatitis Herpetiformis

- Characterized by:
  - Pruritic papules and vesicles
  - Usually located at extensor surfaces
  - Seen in 10% of patients with Celiac disease

Celiac disease/Diet

- Two thirds of patients committed to a gluten free diet are regularly exposed to gluten
- There is no regulation for food manufacturers to test their products for gluten

Forbes GM
Celiac Disease Patients Should No Longer Be Consuming Measureable Amounts of Gluten
Gastroenterology 2020:159;1189

What is the best serum test to evaluate for Celiac disease?

1. Antigliadin antibody
2. Cerulosplasmin level
3. Transglutaminase Ab IgA + Total IgA

Most People in the U.S. With Celiac disease Are:

1. Underweight
2. Normal weight
3. Overweight

Paca L et al
Managing celiac disease: a brief overview
The New Gastroenterologist Winter 2016; 13

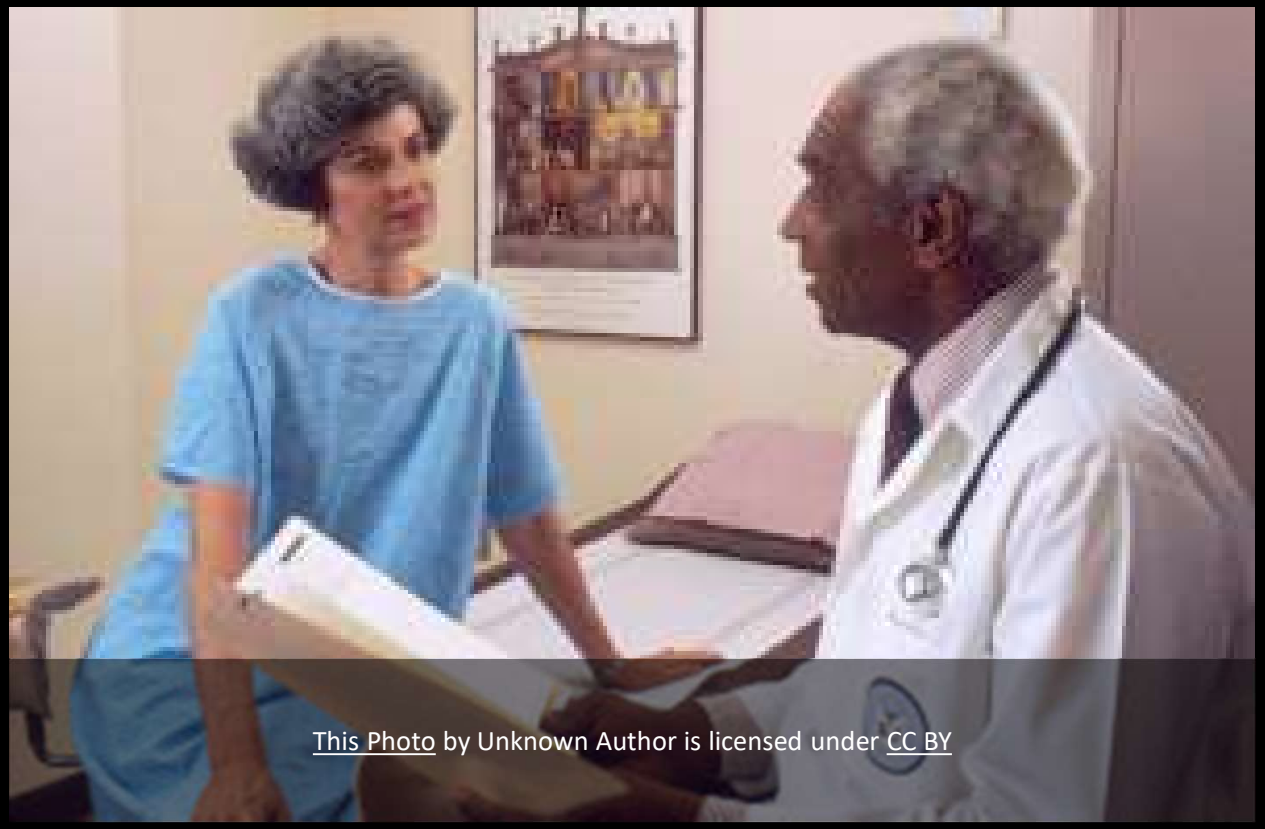
Which of the following is NOT a manifestation of Celiac Disease?

1. Neuro psychiatric issues
2. Autoimmune disease
3. Fever
4. Elevated transaminases

A Celiac disease Patient's non Response to a Gluten Free Diet May be Due To:

1. Cheating on the diet
2. Microscopic colitis
3. Irritable Bowel Syndrome
4. Inflammatory Bowel Disease
5. All the above

Can the filler in pills/capsules exacerbate Celiac disease?



How should we treat Celiac disease in 2023?

1. Diet
2. Peptide vaccination
3. Enzymes
4. All the above

A Person With Celiac disease Can Still Consume:

1. Rice
2. Quinoa
3. Soy
4. All the above

Which of these statements is true?

1. The diagnosis of Irritable Bowel Syndrome is made by excluding other illnesses

2. The diagnosis or Irritable Bowel Syndrome is made clinically and with few, selected tests

Do Patients with Irritable Bowel Syndrome Exhibit "Alarm Signs" ?

How might CRP distinguish Irritable Bowel Syndrome from Inflammatory Bowel Disease?

What is Fecal Calprotectin?

- Fecal Calprotectin: a protein which is increased with bowel inflammation and infections
- Positive predictive value 27%/ **negative predictive value 99%** for Inflammatory Bowel Disease

Walker GJ et al

Fecal calprotectin effectively excludes inflammatory bowel disease in 789 symptomatic young adults with/without alarm symptoms: A prospective UK primary care cohort study

Alimentary Pharmacology and Therapeutics 2018:47;1103

Questions

1. Does the degree of abdominal pain indicate whether a patient has Irritable Bowel Syndrome or something else?

2. Should the intensity of pain lead to more GI consults?

Summary

- Smoking worsens Crohn's and decreases inflammation in Ulcerative Colitis
- Ulcerative Colitis is "curable" ; Crohn's is not
- Early diagnosis and treatment of Crohn's prevents most stricturing
- Microscopic Colitis is different from Ulcerative Colitis and does not have a cancer risk
- The diagnosis of Irritable Bowel Syndrome is no longer one of exclusion

Thanks!

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