Board Review Diarrhea Cases

1) A 39 yo woman presents for evaluation of diarrhea. She reports a history of loose stools for the past year. She has also had bloating and abdominal distension. Workup includes an increased 72 hour fecal fat of 45 grams, decrease in D-xylose absorption, Fe-15(NL>55),carotene 80 (NL >100), B12 –130 (NL >200). What is the most likely diagnosis?

A) Celiac disease

B) Pancreatic insufficiency

C) Blind loop syndrome

D) Crohn disease

2) A 39 yo man with a history of type 1 DM X 18 years presents for evaluation of diarrhea. He has had a 3 month history of bloating and oily diarrhea. He has had only minimal abdominal pain. Lab testing includes: 72 hour fecal fat 45g(NL<21), B12 -100 (NL>200), D-xylose normal,

Hydrogen breath test positive.

What is the most likely diagnosis?

A) Bacterial overgrowth

B) Whipple's disease

C) Pancreatic insufficiency

D) Celiac sprue

E) HIV disease

3) A 46 yo man presents with 5 month history of weight loss, foul smelling loose stool and intermittent abdominal pain. He has a history of GERD and type 2 DM. He has a past history of ETOH abuse with a successful rehab program 6 years ago. He has a history of 15 sexual partners (lifetime) all women. Exam is unremarkable. Lab- Hb 13 HCT 39, WBC 3.9, 72 hour stool fat 96 gms.

What is the most likely test to deliver a diagnosis?

A) Hydrogen breath test

B) Secretin test

C) HIV test

D) Giardia antigen

E) Lactose challenge test

Tests to Sort out Malabsorptive Diarrhea

	Bacterial overgrowth	Panc insuff	Celiac
D- Xylose	↓ or NL	NL	↓↓
Stool Fat	↑	↑↑	↑
Hydrogen breath	↑	NL	NL

Clinical Features of Celiac Disease

- Crampy abdominal pain
- Weight loss
- Diarrhea
- Dermatitis herpetiformis (10%)
- Iron/folate/vitamin D def

Diagnosis

IgA endomysial antibody (moderate sens/ high spe)

IgA tissue transglutaminase ab (sens 95/ spe 94)

Small bowel biopsy

Celiac Pearls

- Associated with dermatitis herpetiformis
- May be a cause of isolated increase in ALT
- Increased risk of small bowel lymphoma
- Type 1 DM common
- Selective IgA deficiency
- Important cause of osteoporosis

Who Develops Bacterial Overgrowth?

- Scleroderma
- High dose PPI's
- Postoperative (Billroth 2)
- Diabetic neuropathy
- Radiation enteropathy

Whipples Disease
Clinical Features

- Arthritis (90%)
- Malabsorptive diarrhea
- Fever (54%)
- Lymphodenopathy (54%)
- CNS involvement (43%)
- Clubbing
- Uveitis

Whipples Disease

Epidemiology- 86% men, often farmers (35%) , 66% occupational exposure to soil or animals

Lab abnormalities

Anemia

Low Carotene

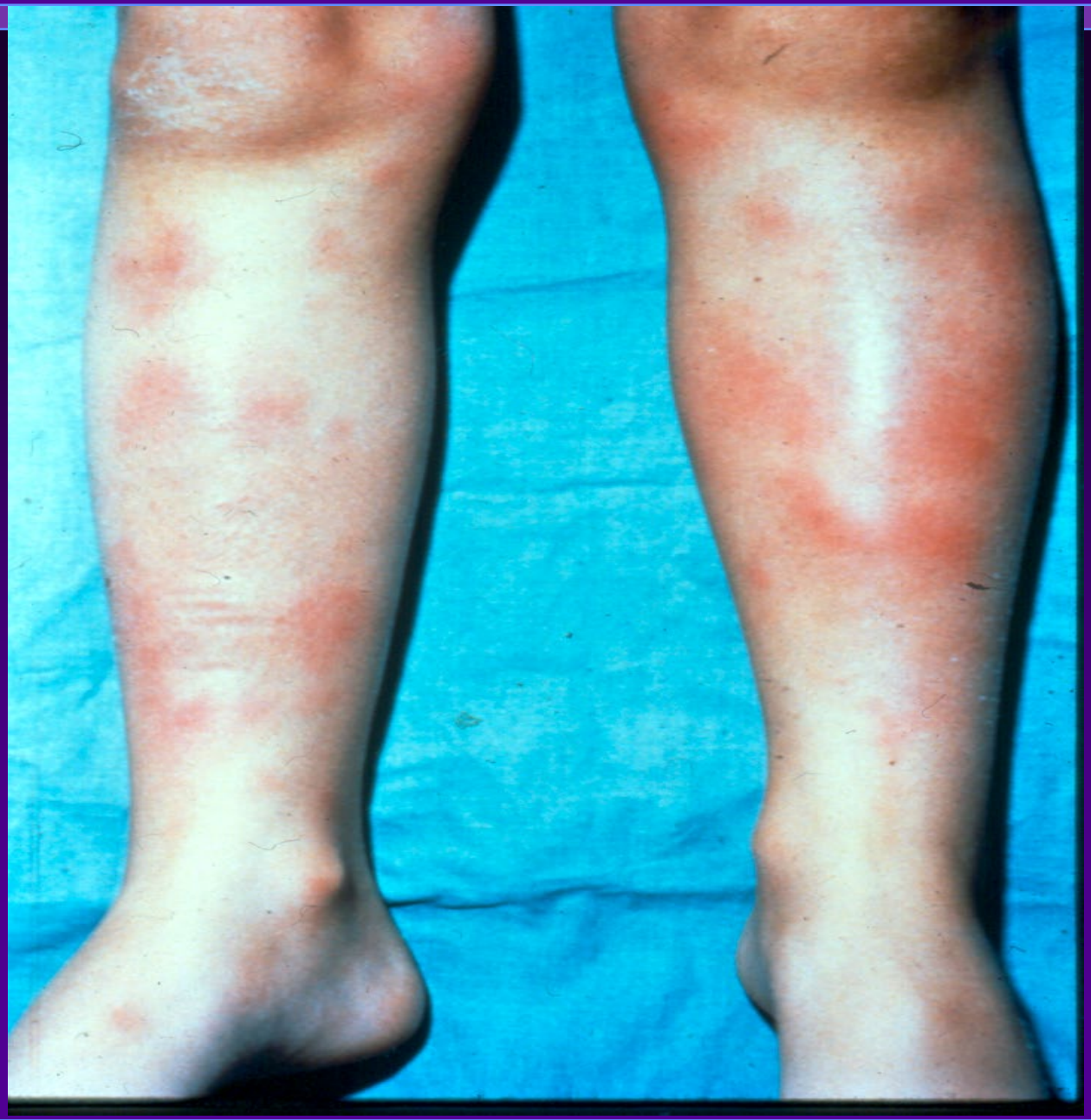
Low albumin

Etiology

Infection with Tropheryma whipplei

Treatment- TMP/Sulfa

- 4) A 26 yo woman presents for evaluation of diarrhea. She has had crampy abdominal pain, fevers, and diarrhea for the past week. She has noticed blood in her diarrhea. Three weeks ago she returned from a vacation trip to Mexico Past medical history is significant for headaches, back pain and PUD. On exam T-38, P-100 BP 90/60. Abdomen – diffuse tenderness, rectal – marked tenderness and heme positive. Lab- Stool for Salmonella/Shigella /Campylobacter negative



What is the most likely diagnosis ?

A) Ulcerative Colitis
B) Yersinia
C) Amebic dysentary
D) Giardia
E) Irritable bowel syndrome

Differential Diagnosis of Arthritis/Diarrhea

- Inflammatory bowel disease
- Reiters syndrome
- Whipples disease
- Celiac disease

- 5) A 58 yo woman is admitted with severe abdominal pain, fever and diarrhea. She has been ill for the past 3 months first with a duodenal ulcer and then a severe pneumonia . Over the past 3 weeks she has lost weight , has had progressive anorexia and has developed diarrhea. On exam she has T-39.2, BP 90/60, p-120 and marked abdominal tenderness. Lab- WBC-25,000, HB 12

What is the cause of her symptoms?

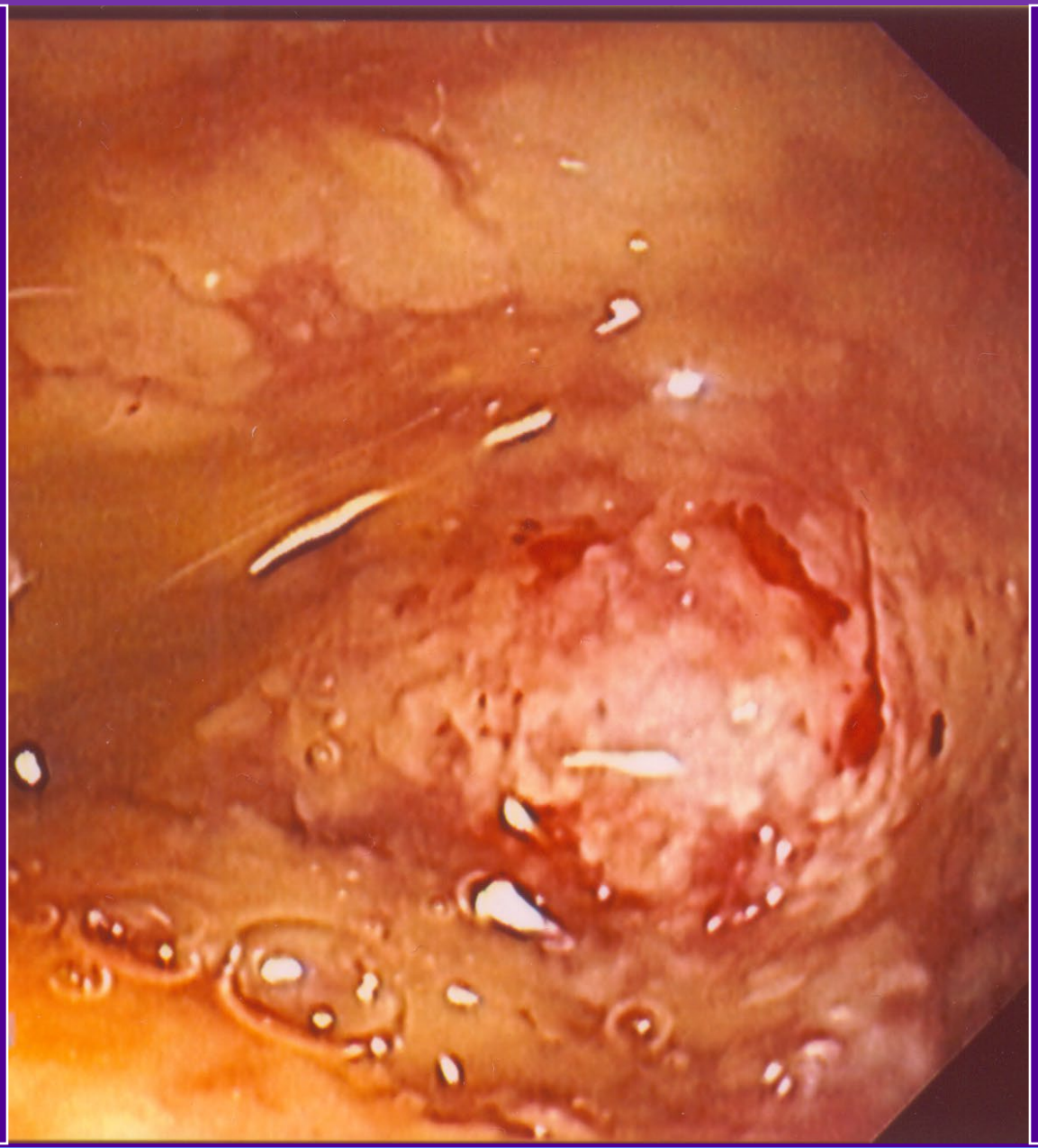
A) Toxic megacolon due to ulcerative colitis

B) Severe diverticulitis

C) Pseudomembranous colitis

D) Multiple ulcers doe to Zollinger-Ellison syndrome

E) Lymphoma penetrating the bowel wall



Clostridia Difficile Infection Epidemiology

- Prior antibiotic use - especially Clindamycin, Amoxicillin and Cephalosporins
- Prior abdominal surgery, chemotherapy or tube feedings, PPI use
- Prevalence of organism - 15-30% of hospitalized patients, 3% of outpatients not on antibiotics
- Community acquired- more bleeding, more severe leukocytosis and possibly worse course

Clostridia Difficile Colitis Clinical Features

- Watery diarrhea 90%
- Abdominal pain 80-90%
- Fever 80%
- Rectal tenderness 80%
- Leukocytosis 80%
- Fecal leukocytes 50%
- Bloody diarrhea 5-10%

Clostridia Difficile
When is it missed?

- Hospitalized patients with fever, leukocytosis, abdominal pain but no diarrhea
- Outpatients with diarrhea (remember medical personnel!)

- 6) A 60 yo woman presents with fever, diarrhea and hypotension. She has recently been treated with clindamycin for a dental infection. BP 80/40 P 130 T 39. Labs: WBC 30,000 Cr 2.5 (baseline 1). C diff toxin positive. What do you recommend?

A) Oral metronidazole
B) IV metronidazole
C) Oral vancomycin
D) Oral and IV vancomycin
E) Oral vancomycin and IV metronidazole

Clostridia Difficile Therapy

- 1st stop inciting antibiotics if at all possible
- Non severe disease

Vancomycin 125 mg QID X 10 days or Fidaxomycin 200 mg BID X 10 days

- Fulminant disease (hypotension/shock/ileus/megacolon)

Vancomycin 500 mg QID X 14 days (add metroniidazole IV)

Vancomycin enema if can't take oral/ileus is present

Clinical practice guidelines for C diff *Clinical Infectious Diseases*, Volume 66, Issue 7, 19 March 2018, Pages 987–994

Clostridia Difficile Therapy-Recurrance

- 1st
- Vanco 125 QID x 10 d if metronidazole was used
- Prolonged vanco/pulsed regimen if vanco was used
- Fidaxomicin 200 bid X 10 d
- 2nd
- Vanco tapered/pulsed
- Fidaxomicin 200bid X 10d
- Fecal microbiota transplant

- 7) A 50 yo man with a history of hypertension presents for evaluation of diarrhea. He is having 5-6 loose, watery stools a day. He has also noticed a new problem with severe halitosis. He has had occasional symptoms of flushing and headaches. Medications: MVI and nifedipine. His exam reveals acne rosacea and BP 140/86. Labs: Na 138 TSH 1.4 Stool electrolytes Na 40 K 10.

What is the Most likely Cause of His Diarrhea?

A) Pheochromocytoma
B) Zollinger Ellison Syndrome
C) Carcinoid
D) Dietary
E) Ulcerative colitis

Calculating a Stool Osmolal Gap

- Stool Osmolal gap= 290- 2 X (stool Na+stool K)
- Gap > 125= osmotic diarrhea
- 50-125 = indeterminate
- <50 secretory diarrhea

Clues to Secretory Diarrhea

- Continues despite fasting
- Occurs day and night
- Stool volumes > 1 liter/day

Osmotic Diarrhea

- Lactose Intolerance
- Sorbitol ingestion

Sugar free gum, breath mints, diet desserts, dried fruits

- 8) A 63 yo old woman has been having diarrhea for the past 6 years. This has really limited her desire to socialize, as the diarrhea is worse several hours after a meal, with marked urgency. PMH: Breast cancer , CAD, S/P cholecystectmy, depression and hypertension. Medications: amlodipine, tamoxifen, atorvastatin, bupropion and aspirin What do you recommend ?
- A) Switch bupropion to sertraline
- B) Treat with bismuth
- C) Stop amlodipine
- D) Treat with cholestyramine
- E) treat with dicyclomine

Post Cholecystectomy Diarrhea

- Occurs in 5-10% after cholecystectomy
- Due to bile acid drip overwhelming terminal ileum's resorptive capacity
- Cholestyramine is an effective therapy

9) A 29 yo woman presents to clinic for evaluation of diarrhea. She has had a 3 day history of frequent watery diarrhea and low grade fevers. She reports eating at a fast food restaurant twice in the past week. She has had some cramping . What is the most appropriate plan?

A) Clear liquid diet

B) Stool for O & P

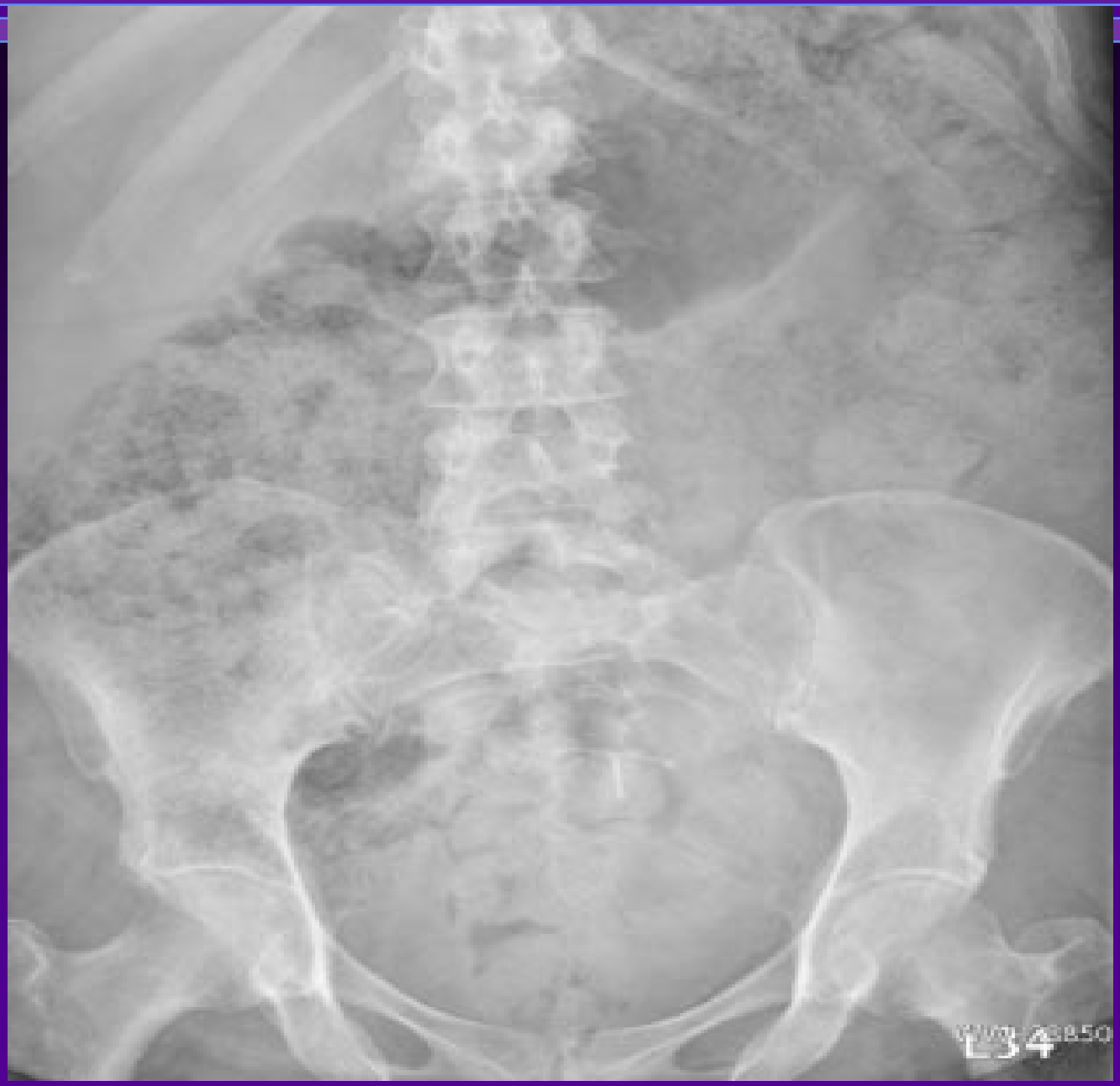
C) Stool for O & P X3

D) Stool for enteric pathogens

E) Stool for fecal leucocytes

- 10) A 88 yo woman has been having frequent episodes of fecal incontinence over the past week She has had a small amount of liquid seepage several times a day. She has also had abdominal pain. Abdominal film as shown. What do you recommend for management of her problem?

A) Loperamide one tablet a day
B) Diphenoxylate/atropine one tablet daily
C) Fecal disimpaction
D) Amoxicillin/clavulanate
E) Lactulose twice a day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Fecal Incontinence

- Definition- Minor- partial soiling of undergarments with liquid stool

  Major- involuntary excretion of feces
- 15% in patients older than 70, and up to 50% in NH residents
- Etiology

Fecal impaction (common) causes constant inhibition of internal anal sphincter tone, allowing seepage of liquid stool

Trauma (surgery/childbirth injury)

- 11) 56 yo woman presents for evaluation of watery diarrhea. Symptoms have been present for 6 months, with 6-9 stools a day. She has had occasional weeks with minimal diarrhea. She has some mild abdominal pain and has lost 5 pounds. Exam is unremarkable. Stool osmolality is 308 ,stool sodium 90, stool potassium is 45. What is the most likely diagnosis?

  A) Celiac sprue

  B) Inflammatory bowel disease

  C) Carcinoid syndrome

  D) Collagenous colitis

  E) Ischemic colitis

Collagenous Colitis

- Most common in women 45-60 yo (female to male ratio 15:1)
- Insidious onset of watery diarrhea most common
- Can be associated with NSAIDS, Lansoprazole, sertraline
- Course: Usually chronic intermittent
- Diarrhea is usually secretory, up to 2 liters daily
- Treatment with budesonide or bismuth subsalicylate can lead to remission.

12) A 25 yo woman presents with abdominal pain. She has had pain for the past four months. The pain can be either sharp or dull. Her pain is worst in the left lower quadrant but has been present in the left upper quadrant at times. She has been having increasing problems with loose stool, increased stool frequency and urgency. Her symptoms seem worse after eating. She has not had nocturnal symptoms. Her exam is significant for mild left lower quadrant tenderness. Pelvic exam is normal. Stool is hemeoccult negative. Lab- Hb 11.5, HCT-35. A flex sig is normal

What would you recommend?

A) Colonoscopy

B) Upper GI with small bowel follow through

C) Abdominal ultrasound

D) Reassurance and dietary modifications

E) An SSRI

Irritable Bowel Syndrome
Key Clinical features

- Abdominal distension
- Abdominal pain relieved by defecation
- More frequent stools with onset of abdominal pain
- Looser stools with onset of pain

Irritable Bowel Syndrome Clinical Clues

- Onset usually between ages 15-30
- Pain often worse after meals
- No nocturnal symptoms
- Stable weight or weight gain
- Symptoms worse during times of stress
- Can start or worsen after a bowel infection

Irritable Bowel Syndrome Workup

- Workup intensity based on patients age, older patients (> 40 yo) need more intense workup
- Basic workup- Hemeoccults, CBC, ESR, Flex sig
- Consider- TFT's, 24 hour stool collection, serologic sprue workup

13) A 37 yo man from Seattle presents with 3 day history of crampy abdominal pain and bloody diarrhea. He has had a fever to 102.3.

He has no previous history of bowel problems. He reports eating at several fast food burger restaurants in the last week. Medications: Lansoprazole,Retin A, Minocycline, Sertraline. Labs- HCT42 WBC 15,000 Stools are sent for enteric pathogens . What would you recommend?

A) Clear liquid diet/IV fluids if needed

B) Ciprofloxacin X 7 days

C) Amoxicillin X 7 days

D) Ciprofloxacin X7 days + Lomotil

Enterohemorrhagic E.Coli

- Supportive care
- No antimotility drugs!
- No antibiotics

Clin Infect Dis 2001; 32:331-350

14) A) A 34 year old man presents with fever and bloody diarrhea. He has felt poorly for 2 days. He returned from Mexico 3 days ago. Labs: WBC 19,000 HCT 40 Plt 190,000

B) A 24 year old woman presents with fever and bloody diarrhea. She has felt poorly for two days. She has not traveled outside Washington this month. Labs: WBC 10,000 HCT 39 Plt 120,000

Who is more likely to get real ill?

Red Flag

- Thrombocytopenia in the setting of bloody diarrhea concerning for enterohemorrhagic E. Coli

When Should Antibiotics Be Used For Infectious Diarrhea?

- Traveler's diarrhea- YES
- Shigellosis-YES
- Campylobacter-Probably
- Salmonella- Occasionally
- E Coli O157:H7- NO

History Pearls for Acute Diarrhea

- Enterohemorrhagic E. Coli- Fast food, apple cider
- Enterotoxigenic E. Coli- travelers to 3rd world countries
- Salmonella- Poultry, eggs (Caeser salad), pet reptiles, ice cream, alfalfa sprouts
- Campylobacter- Poultry, raw milk, cheeses
- Shigella- Daycare centers, vegetables
- Yersinia- beef, milk, hemochromatosis
- C. Difficile- Hospitalization, antibiotics, abdominal surgery, tube feeds
- Bacillus Cereus- Beef, pork, fried rice
- Cryptosporidia- Swimming pools, daycare centers, farm animal exposure

ANSWERS

1) A –Celiac disease
2) B-Bacterial overgrowth
3) C- Secretin test
4) A- Ulcerative colitis
5) C- Pseudomembranous colitis
6) E- Oral vanco and IV metronidazole
7) D- Dietary
8) D- Treat with cholestyramine
9) A- Clear liquid diet
10) C- Fecal disimpaction
11) D- Collaginous colitis
12) D-Reassurance and dietary modifications
13) A- Clear liquid diet, fluids as necessary
14) B