Gastroenterology Pearls

1) A 43 yo man presents to the ED with dizziness and a 6 hour history of passing maroon stool. He has been in good health with his only medical problem being depression. Medications: sertraline. On exam, BP 100/60 P 100 lying down, BP 90/60 P130 standing up. Rest of exam is normal. Lab: HB 10 HCT 30 WBC 4.6 Plt 175,000 Na 142 Cl 100

- HCO3 24 K 3.8 BUN 38 Cr 1.1.
- What is the most likely source of bleeding?
- A) Gastric ulcer
- B) Meckel's diverticulum
- C) AVM
- D) Diverticulosis
- E) Hemorroids

Factors Predictive of Upper GI Source for Bleeding

- Melena reported LR 5.9
- Melenic stool on exam LR 25
- Blood or “coffee grounds” in NG LR 9.6
- BUN/Cr ratio >30 LR 7.5

- JAMA. 2012 Mar;307(10):1072-9.

SSRI's and Risk of GI Bleeding

- SSRI vs placebo OR 1.41 (CI 1.27-1.57), p<.00001 (1)
- SSRI vs placebo OR 1.66 (1.44-1.92) (2)

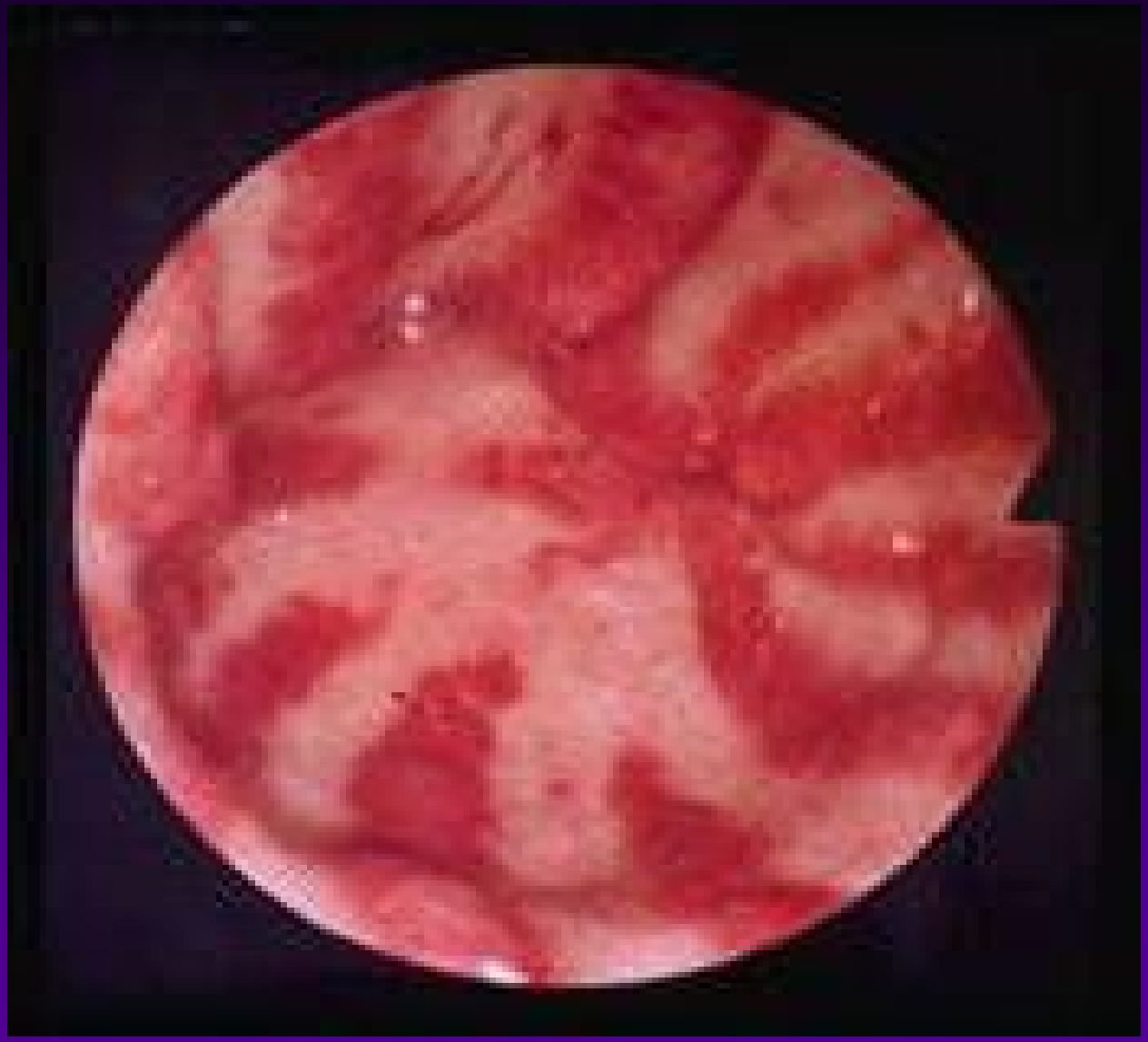
NNH (low risk) 3177, NNH high risk 881

- SSRI + NSAID OR 4.25 (2.82-6.42) (2)

1) Pharmacological Research 2017: 118: 19-32

2) Am J Gastroenterol. 2014 Jun;109(6):811-9.

2) A 60 yo woman presents for evaluation of hematemesis. She woke up this morning and felt nausea, then vomited bright red blood. She has a history of GERD for the past 2 years that has not been well controlled with a 20 mg of omeprazole. She undergoes endoscopy-



What is the Most Likely Underlying Disease?

A) Hereditary hemorrhagic telangectasia
B) Hepatocellular carcinoma
C) Scleroderma
D) Primary sclerosing cholangitis
E) Helicobactor Pylori

Gastric Antral Vascular Ectasia (Watermellon Stomach)

- Cause for chronic blood loss/UGI bleeding
- Most important association is with Scleroderma, where anti-RNA polymerase III antibodies are often present
- Other associations: cirrhosis (usually not with typical watermelon stomach),bone marrow transplant, renal disease. Many cases without association in the elderly

GI Manifestations of Scleroderma

- GERD- often severe
- GAVE
- Gastroparesis
- SIBO
- Intestinal pseudo-obstruction
- Small bowel Diverticula

3)A 44 yo woman presents with abdominal discomfort. She has had pain in the right upper quadrant for the past few weeks. Her pain improves after she eats. She has also noticed black tarry stools over the past week. She has also noticed more bloating recently. PE: BP 96/60 P 90 Abdomen- soft, mid epigastric and RUQ tenderness. Lab- HB 10 HCT 30 WBC 9,000 AST 30 ALT 25 Alk Phos 100

- What is the most appropriate next step?
- A) Abdominal ultrasound
- B) Contrast CT scan
- C) MRCP
- D) Upper endoscopy
- E) Trial of PPI3)

Indications for Upper Endoscopy in Patients with Dyspepsia

1) Prescence of alarm features

Age >50 years

Anemia

Melena/rectal bleeding

Weight loss

Anorexia/early satiety/persistent vomiting/dysphagia

Prior gastric surgery/abdominal mass

FH UGI malignancy in 1st degree relative

2) No response to PPI trial

GASTROINTESTINAL ENDOSCOPY Volume 82, No. 2 : 2015

H Pylori Related Disease

- PUD
- MALT lymphoma- therapy for extranodal marginal zone lymphoma stage 1 or 2 is H pylori eradication alone
- Chronic gastritis/Atrophic gastritis

Iron def anemia

ITP

B12 def

Gastric cancer

4)A 76 yo man 1 week post PCI with stent placement in LAD presents with dizziness and melena. He undergoes urgent upper endoscopy and is found to have a 4mm gastric ulcer. Medications: aspirin 81 mg, clopidogrel 75 mg, rosuvastatin 20 mg. PE: BP 110/70 P 100

- Labs: HB 11 HCT 33 WBC 7,000 BUN 30 Cr 0.9

What do you recommend?

A) Begin Pantoprazole
B) Begin Pantoprazole, stop aspirin X 1week
C) Begin Pantoprazole, stop aspirin and clopidogrel X1 week
D) Begin Famotidine, stop aspirin X 1 week

UGI Bleeding in Patients With Recent PCI

- If within first 3 months post PCI, continue dual antiplatelet therapy unless bleeding is life threatening
- Treat with PPI (PPI's do not appear to have a clinically significant effect on clopidogrel)
- Immediate GI evaluation, usually with endoscopy

5)A 86 yo man presents to urgent care for a 6 hour history of BRBPR. He was in his usual state of health until last night when he had the onset of mild left sided abdominal pain, most prominent in the left upper quadrant. This morning he has had 4 episodes of passing BRBPR. PMH: Hx Diverticulitis 4 years ago, HTN, CAD (S/P stent 2 years ago), AAA with repair 8 years ago. Medications: Valsartan, chlorthalidone, amlodipine, atorvastatin, aspirin. PE: BP 90/60 P 90 T 37 Abdomen- nontender

- Labs: HB 12 HCT 36 WBC 8,000 plt-180,000 Lipase-10 AST-20 ALT 19, alk phos 100

What is the Most Likely Diagnosis?

A) Colon cancer
B) AVM
C) Enterohemorrhagic E. Coli
D) Ischemic Colitis
E) Aortoenteric fistula

Causes of Lower GI Bleeding

- Diverticulosis up to 50%
- Ischemic colitis 6-18%
- Anorectal disorders 6-16%
- Polyp/malignancy 3-11%
- AVM 0-3%
- IBD 2-4%
- Unknown (up to 20%)

Ischemic Colitis

- Epi- most common in the elderly, especially the very old, those with multiple CV risk factors. Also can occur in those with hypercoaguable states, cocaine and methamphetamine use and with the drug alosetron
- Symptoms- mild cramping abdominal pain, often left side , especially at splenic flexure, can be accompanied by urgent desire to defecate
- Diagnostic testing- contrast CT, sigmoidoscopy/colonoscopy
- Management- supportive care/fluids if needed, hold BP meds if low BP. Surgical consult if severe signs/Sx

What You Need To Know About LGI Bleeds

- Unstable patient- CT angiography if no diagnosis- upper endoscopy
- Unstable patient CTA shows source- angiography with embolization if possible
- Major bleed, but stable- proceed to colonoscopy
- Transfuse at HB of 7, if CV disease transfuse at HB 8
- Aspirin for primary CV prophylaxis should be permanently stopped
- Aspirin for secondary prophylaxis not routinely stopped
- Temporarily stop DOAC, restart within 1 week. Treat with inhibitor if life threatening hemorrhage

- Gut 2019; 68 (5): 776-789.

6) A 40 yo woman is evaluated for an 8 hour history of epigastric pain that radiates to the back.She has had nausea and vomiting today. She has recently binged on alcohol, drinking a fifth of gin and 15 beers in the past 24 hours. Labs show a WBC of 16,000, BUN 30 Cr 1.2 Lipase of 800. US shows no gallstones. Patient has pain for 48 hours with continued nausea. A CT scan shows noncontrast enhancing areas of the head and body of pancreas (necrosis) and peripancreatic fluid collections.

What is the Most Appropriate Management?

A) Drainage of the fluid collections

B) Enteral feeding by Nasojejunal tube

C) TPN

D) ERCP

E) Imipenam

Management of Acute Pancreatitis

- Aggressive IVF –LR
- Pain Control
- Oral or Enteral nutrition (preferred over TPN)
- No prophylactic antibiotics

7)A 68 yo woman presents with abdominal pain. She has had a 2 day history of left sided abdominal pain. She has felt warm, but has not had any chills. She has not had dysuria, flank pain . No nausea or vomiting, appetite is slightly diminished.PE: T 35.9 BP 130/88 P 90. She has LLQ tenderness on exam without guarding or rebound. Lab: HB 12 HCT 37 WBC 11.7. Abdominal CT scan shows inflammation of the sigmoid colon and mesentery

Which of the following is the most appropriate management?

A) Admission for IV ampicillin/sulbactam
B) Oral amoxicillin/clavulanate
C) Oral Trimethoprim/Sulfa
D) General surgery consult
E) Liquid diet, reassess patient in 2 days

No Antibiotics for Mild Diverticulitis

- Prospective, multicentre, open-label, noninferiority, randomized controlled trial of 480 patients with mild acute diverticulitis- received amoxicillin/clavulanate or no antibiotics
- No difference in between hospitalization rate (5.8% in antibiotic group, 3.3 in no antibiotic group), revisits (6.7 vs7%), or pain control (5.7 vs 2.3)

- Ann Surg. 2021;274(5):e435.

8)A 34 yo man presents for evaluation of intermittent solid food dysphagia and chest discomfort. He has no significant past medical history He has tried famotidine without any relief.

- Endoscopy:

What is the Most Appropriate Therapy?

A) Nitroglycerin SL
B) Sucralfate suspension 1 gram q6 hours
C) Fluconazole 200 mg qday X 10 days
D) Fluticasone MDI 220 mcg swallow BID
E) Azathioprine 100 mg qday

Eosinophilic Esophagitis

- More and more common
- Think of it in your differential for dysphagia in young adults
- Multiple rings, often with whitish exudate
- Biopsy shows > 20 eosinophils/HPF
- Treatment: Avoidance of allergen, Inhaled fluticasone swallowed or budesonide oral suspension, PPI's. Dupilumab?

9) A 43 yo man with HIV disease (most recent CD4 count 75, VL 1.2 million) presents with dysphagia X 2 weeks. He is finding it very difficult to swallow solids. He has been off ARV X 2 years. On physical exam T 37 BP 100/60 P 100 Mouth- white plaques on buccal mucosa/palate. Neck- adenopathy

I What is the next step in management?

A) Upper endoscopy

B) Nystatin Swish and swallow 400,000 u QID

C) Fluconazole 400 mg daily

D) Amphotericin B (lipid formulation(3mg/kg IV)

Candidal Esophagitis

- 50-80% of esophageal disease in patients with HIV is due to candida
- Positive predictive value of oral thrush and esophageal symptoms is close to 100%
- Treatment: Fluconazole

10) A 47 yo woman presents for evaluation of abnormal liver tests. She had tests done for a life insurance exam. The patient has no symptoms. She has a history of hyperlipidemia treated with Atorvastatin. Exam: Obese woman BP 140/70 P80. No hepatomegaly on exam. Labs: AST 88(NL <50) ALT 96 (NL <50) Alk phos 150 (NL < 130) Glucose 124. Subsequent workup Hep C ab negative. What is the most likely cause of her liver lab abnormalities?

A) MASLD
B) Alcoholic hepatitis
C) Toxicity from atorvastatin
D) Hemochromatosis
E) Autoimmune hepatitis

MASLD and Weight Loss

Weight Loss

3-5%	→	Resolution of MASLD
7-10%	→	Resolution of MASH
>10%	→	Reversal of Fibrosis

Ann Intern Med 2025;178:ITC1-16

Metabolic Dysfunction-Associated Steatotic Liver Disease (Nonalcoholic Fatty Liver Disease)

- Common 7-9% of liver biopsies
- More common in women
- Associated with metabolic syndrome (Obesity, type 2 DM, hyperlipidemia)
- Lab abnormalities: Usually transaminase elevations ALT slightly more than AST, not much elevation in Alk phos
- Diagnosis: Definitive by biopsy, strongly suspect in patients with right risk factors and negative hepatitis serologies
- Do a Fib 4 score
- Therapy- gradual weight loss, Patients without DM Vitamin E 800u, Patients with DM- GLP-1 or Pioglitazone
- Resmetirom

Clinical Bottom Line

- MASLD is now the most common cause of chronic liver disease worldwide. It can progress to MASH and cirrhosis and is soon to be the leading reason for liver transplants in the US
- Lifestyle modifications centering on weight loss are essential

Clinical Bottom Line

- Resmetirom is the first FDA-approved drug for use in MASH with fibrosis
- Cost will be the main limiting factor for its widespread use
- GLP-1 agonists* should be offered in patients with DM and MASLD
- Vitamin E seems like a good low-cost approach for all patients with MASLD*

* Not FDA approved for MASLD

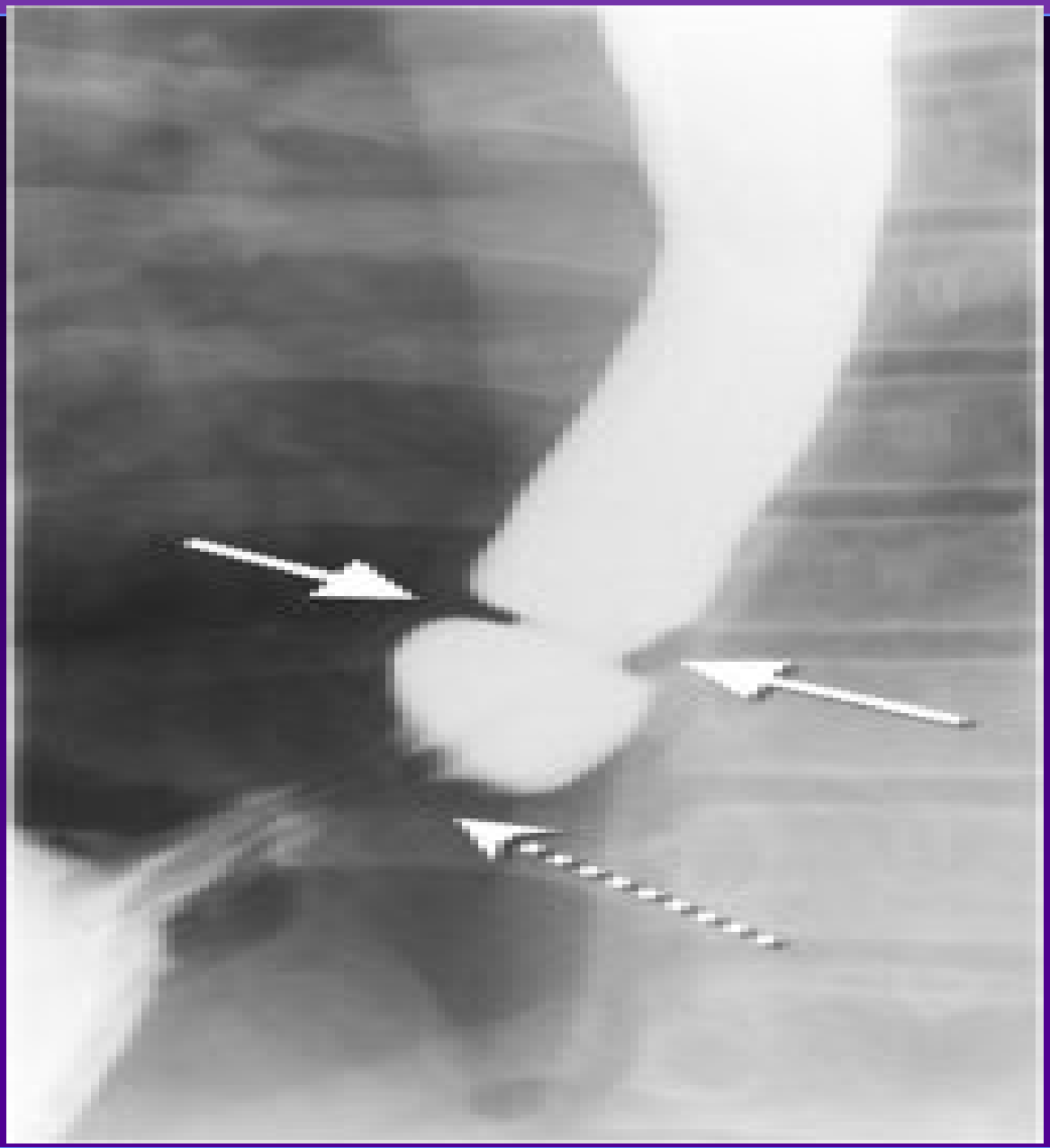
Fib 4 Score

- Need AST,ALT and platelet count to calculate Fib 4 score
- Score <1.45 has negative predictive value of 90% for advanced fibrosis
- Score >3.25 has 97% specificity and PPV of 65% for advanced fibrosis
- If high fib 4 score, refer to hepatology clinic

11) A 56 yo man calls to report an episode of food sticking in his esophagus. He was at a dinner party yesterday, and a piece of steak got stuck for about 30 minutes. He reports that this has happened to him twice before in the past few years, but he had forgotten to mention it at clinic visits. He has a history of GERD which he takes infrequent PPI's for. He has a 20 pack year smoking history, quitting 5 years ago. He does not drink alcohol.

I What is the most likely diagnosis?

A) Pummer-Vinson syndrome
B) Esophageal cancer
C) Zenker diverticulum
D) Achalasia
E) Schatki's ring



Schatzki's Ring

- Associated with hiatal hernia in 97%

- Located at squamocolumnal junction
- Intermittent dysphagia to solid foods
- Can present with episodic food impaction, acute dysphagia
- Dx- Barium swallow/endoscopy
- Treatment- Dilation

12)A 53 yo woman presents for evaluation of persistent abdominal pain over the past 6 months. She reports the pain is about a 7/10, located in the right upper quadrant. The pain does not worsen with food, no relieved with bowel movements. No nausea or vomiting. She reports that it is worse when she is sitting or standing, it is relieved by lying down. PMH: History Cholecystectomy in 2016, Hypertension, type 2 DM

- Medications: Metformin, Lisinopril, Empagliflozin
- BP 130/70 P 80
- Abdominal exam- Tenderness to palpation in right upper quadrant, no rebound tenderness
- Labs: WBC 5.4 HCT 44 ESR 13 CRP 1.0 bili .8 alk phos 100 AST 30 ALT 22

What is the Most Appropriate Next Step

A) RUQ ultrasound
B) Abdominal CT scan
C) Upper endoscopy
D) More detailed physical exam

What is Carnett's Sign

- A positive Carnett's sign is when abdominal pain pain increases or remains unchanged with tensing Abdomen or when examiner palpates the tensed abdomen.

Chronic Abdominal Wall Pain as a Cause of Chronic Abdominal Pain

- In study of 2709 patients with chronic abdominal pain referred to gastroenterologists, 137 had chronic abdominal wall pain
- Diagnosis unchanged in 97% after 4 years
- 80% were women
- Diagnosis unsuspected by referring physician

- Costanza CD, Longstreth GF, Liu AL . Chronic abdominal wall pain: clinical features, health care costs, and long-term outcome. Clin Gastroenterol Hepatol. 2004;2(5):395.

ACNES as Cause of Chronic Abdominal Wall Pain

- Up to 30% of patients with chronic abdominal pain of unknown orgin have ACNES (anterior cutaneous nerve entrapment syndrome)
- Estimated incidence is 1:2000
- Diagnosis: Carnett sign (88%)/ response to anesthetic injection

- Hernia. 2018 Jun;22(3):507-516.

13) A 56 yo woman is seen for persistent symptoms of GERD. She first had symptoms 8 years ago. At that time she had an upper endoscopy that was unremarkable. She was treated with once daily omeprazole which resolved the symptoms. Over the past 5 years she has had to increase her dose of omeprazole to twice a day for control of symptoms. If she misses a dose of her PPI her symptoms return.

I What do you advise?

A) Upper endoscopy to screen for Barrett's esophagus

B) Ambulatory pH monitoring

C) Esophageal manometry

D) Check vitamin B12 level

Alarm Features (Need for Upper Endoscopy)

- New onset dyspepsia in patient ≥60 years
- ●Evidence of gastrointestinal bleeding (hematemesis, melena, hematochezia, occult blood in stool)
- ●Iron deficiency anemia
- ●Anorexia
- ●Unexplained weight loss
- ●Dysphagia
- ●Odynophagia
- ●Persistent vomiting
- ●Gastrointestinal cancer in a first-degree relative

- 14)A 51 yo woman comes to clinic to discuss her GERD. She has been on omeprazole for 6 years, which has done a great job controlling her symptoms. She has read about some concern with the drug and would like to look at alternative options for her GERD. What do you recommend?
- A) Taper off PPI, Start H2 blocker
- B) Stop PPI , start H2 blocker
- C) Stop PPI
- D) Stop PPI, recommend refraining from spicy foods

AGA Indications for PPI's

- Definite indications for long term use- Barrett's, erosive esophagitis,eosinophilic esophagitis, esophageal strictures from GERD, Z-E syndrome, IPF
- Conditionally indicated for long term use- PPI responsive GERD with recurrence off PPI, PPI functional dyspepsia with recurrence off PPI, PPI responsive upper airway/laryngeal symptoms with recurrence off PPI
- Not indicated for long-term use- non erosive esophagitis without response to high dose therapy, Functional dyspepsia with no sustained response to PPI therapy, Steroid therapy in the absence of ASA/nonsteroidal anti-inflammatory drug therapy

- **CLINICAL PRACTICE UPDATE**| VOLUME 162, ISSUE 4, P1334-1342, APRIL 2022

Recommendations for Deprescribing PPI's

- Most patients with an indication for chronic PPI use who take twice-daily dosing should be considered for step down to once-daily PPI. 80% of patients on high dose PPI could reduce without significant recurrence of symptoms
- Patients who discontinue long-term PPI therapy should be advised that they may develop transient upper GI symptoms due to rebound acid hypersecretion.
- When de-prescribing PPIs, either dose tapering or abrupt discontinuation can be considered.
- AGA Clinical Practice Update on Deprescribing PPI's Gastroenterology 2022;162:1334–1342

Vonoprazan

- Vonoprazan is a potassium-competitive acid blocker (P-CAB) that inhibits acid secretion at the H^+/K^+ ATPase parietal proton pump
- It has been in use in Japan and other Asian countries since 2015
- FDA approved in November 2023 for erosive esophagitis and non-erosive GERD

Drugs for GERD - Cost

- Omeprazole 6$/30d
- Lansoprazole 5$/30d
- Pantoprazole 16$/30d
- Vonoprazan 706$/30d

www.goodrx.com cost at Riteaid pharmacy - accessed 2/24/25

Vonoprazan

- •Vonoprazan is more effective than PPIs for severe esophagitis
- •Non-inferior to PPIs for ordinary GERD symptoms
- •Adverse effects infrequent and similar to PPIs •Risk of serious AE's likely also comparable
- •FDA approved for only 6 months
- •High cost ($700/mo) would make this appropriate only for PPI failures who follow anti-reflux precautions, and for those with erosive esophagitis

Answers

1) A gastric ulcer
2) C scleroderma
3) D upper endoscopy
4) A Begin pantoprazole
5) D Ischemic colitis
6) B Enteral feeding with NJ tube
7) E Liquid diet, reassess
8) D Fluticasone 220 mcg swallow BID
9) C Fluconazole 400 mg
10) A MASLD
11) E Schatzki's ring
12) D More detailed physical exam
13) D check vitamin B12 level
14) Any answer is correct