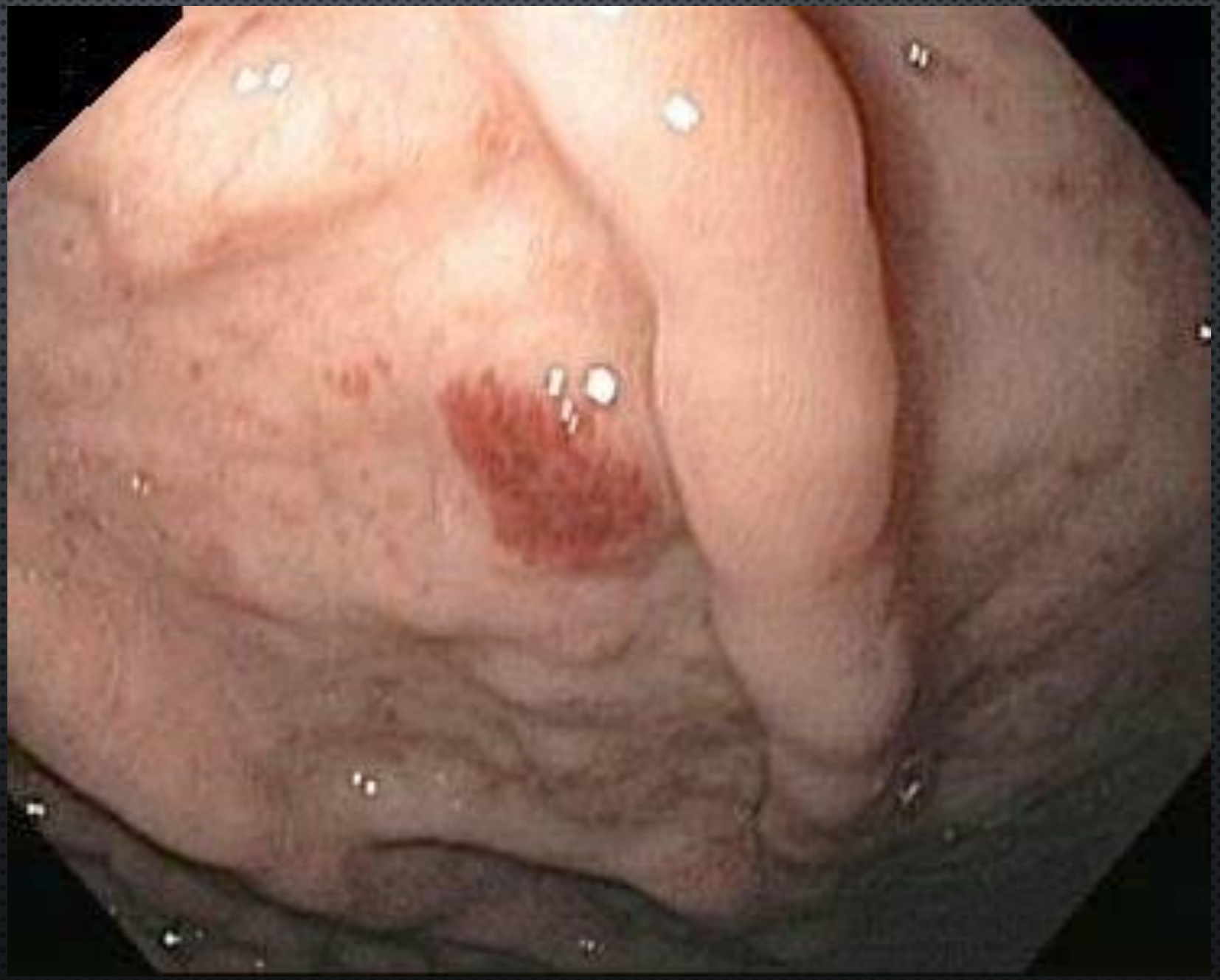
GI TEST REVIEW

Dr. Archbold

11/27/18

PICTURE FOR QUESTION #12



#1 – "DYSPHAGIA"

- A 78-year-old man is evaluated for symptoms of dysphagia that began 2 weeks ago. When he eats, he starts coughing after the first bite of food and occasionally has *NASAL REGURGITATION*.
- On physical examination, blood pressure is 135/90 mm Hg, pulse rate is 78/min, and respiration rate is 12/min. Left-sided weakness is noted in both extremities, upper greater than lower.
- Which of the following is the most appropriate diagnostic test to evaluate this patient's dysphagia?

ANSWER: D – VIDEOFLUOROSCOPY

DEFINITIONS -

Dysphagia = subjective sensation of difficulty or abnormality of swallowing

Odynophagia = is pain with swallowing

Globus sensation = feeling like there's a ball or a lump or a mass

Esophageal dysphagia = Difficulty swallowing several seconds *after* initiating a swallow, and a sensation that foods and/or liquids are being obstructed in their passage from the upper esophagus to the stomach.

Oropharyngeal dysphagia = Transfer dysphagia = Difficulty initiating a swallow, which may be accompanied by nasopharyngeal regurgitation, aspiration, and a sensation of residual food remaining in the pharynx.

- Dysarthria = weakness of soft palate or pharyngeal constrictors
- Drooling/food spillate = facial muscles
- Hoarseness = laryngeal nerve dysfunction
- Regurgitation hours later = Zenker

EVAL OF OROPHARYNGEAL DYSPHAGIA

#2 – Barrett Esophagus

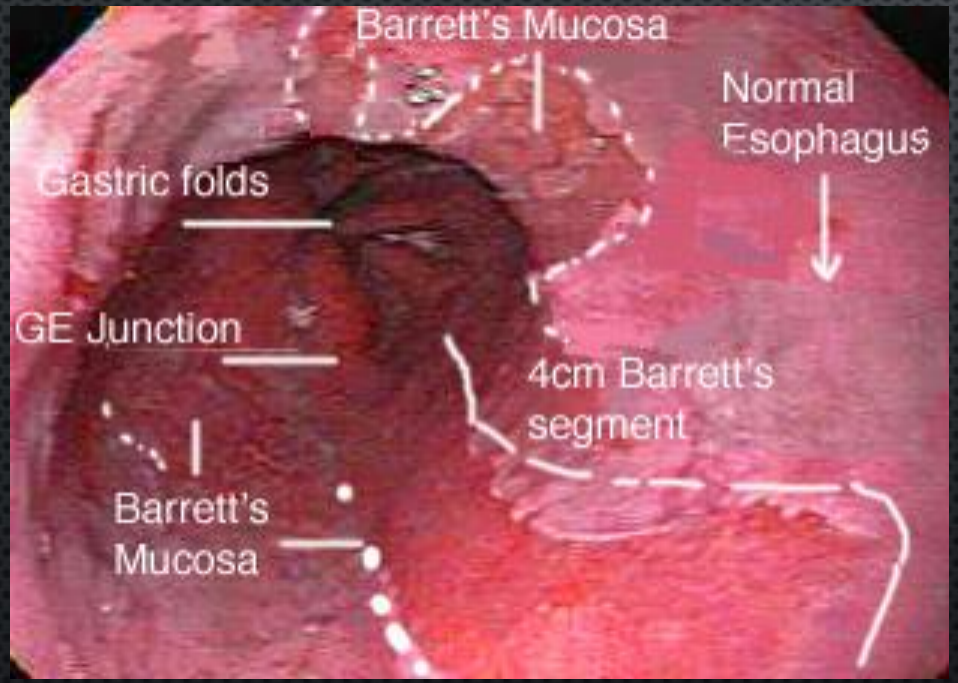
- A 65-year-old man is evaluated for a 4-week history of worsening reflux and heartburn. He has a 10-year history of heartburn that was previously well controlled with omeprazole. Recently he noticed that the medication is less effective, and he is experiencing heartburn in the afternoon. He has no dysphagia, nausea, vomiting, or weight loss. He takes no other medications.
- On physical examination, vital signs are normal. The remainder of the examination, including abdominal examination, is unremarkable.
- Upper endoscopy shows a small hiatal hernia and salmon-colored mucosa in the distal esophagus. Pathology results reveal a diagnosis of Barrett esophagus with LOW-grade dysplasia.
- Which of the following is the most appropriate next step in management?

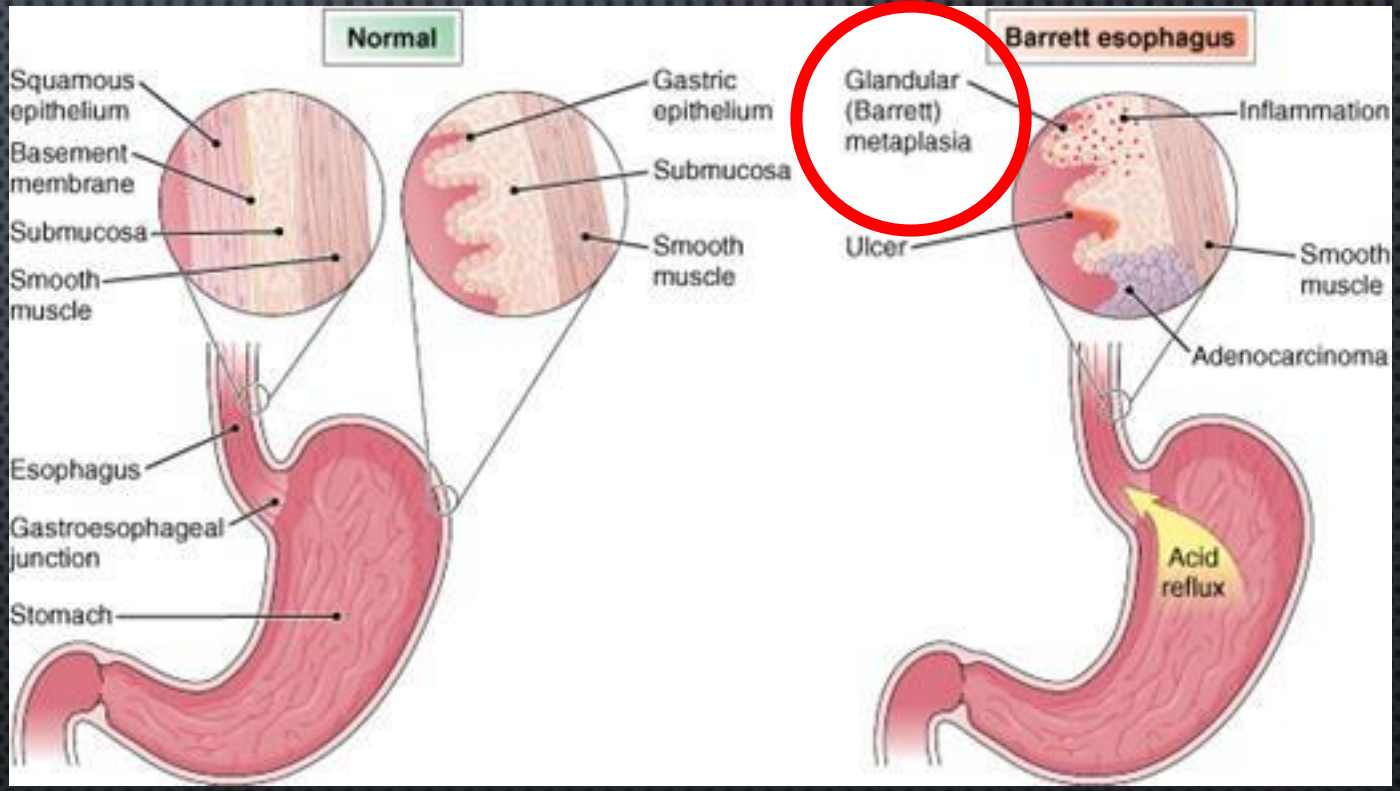
ANSWER: A – ENDOSCOPIC ABLATION OR SERIAL EGD

THIS IS A NEW UPDATE FROM 2016 :

WANI S, RUBENSTEIN JH, VIETH M, BERGMAN J. DIAGNOSIS AND MANAGEMENT OF LOW-GRADE DYSPLASIA IN BARRETT'S ESOPHAGUS: EXPERT REVIEW FROM THE CLINICAL PRACTICE UPDATES COMMITTEE OF THE AMERICAN GASTROENTEROLOGICAL ASSOCIATION. GASTROENTEROLOGY. 2016;151:822-835..

BARRETT ESOPHAGUS IS DEFINED AS THE EXTENSION OF THE METAPLASTIC COLUMNAR EPITHELIUM ABOVE THE GEJ INTO THE ESOPHAGUS. BARRETT ESOPHAGUS IS A CONSEQUENCE OF GERD, EVEN IN ASYMPTOMATIC PATIENTS. IT HAS THE POTENTIAL TO PROGRESS TO ESOPHAGEAL CANCER.





WHY DO WE NEED TO LEARN ABOUT BE?

Pyrosis is the number one GI complaint in Western populations.

It can turn into cancer – "The cancer risk associated with BE is believed to be 0.5% per year, but a recent study from Denmark reports an estimate of 0.12% per year." x30 more likely than non BE individuals.

It's common = "Approximately 10% of patients with GERD are found to have BE on upper endoscopy, although 40% of patients diagnosed with adenocarcinoma of the esophagus report no symptoms of GERD."

BE MANAGEMENT:

Practice Guidelines for Endoscopic Surveillance of Barrett Esophagus

Dysplasia Grade	Recommendation
None	If no dysplasia is present, repeat upper endoscopy every 3 to 5 years
Indefinite	Start or adjust proton pump inhibitor therapy, then repeat endoscopy in 3 to 6 months If still present, then repeat endoscopy in 1 year
Low-grade	Confirmation by expert pathologist, then proceed to endoscopic eradication therapy (surveillance endoscopy in 12 months is an alternative)
High-grade	Confirmation by expert pathologist Endoscopic eradication therapy is preferred

BE SCREENING:

ABOUT 10% OF PATIENTS WITH GERD ARE FOUND TO HAVE BARRETT ESOPHAGUS ON ENDOSCOPY. MEN OLDER THAN AGE 50 YEARS WITH GERD SYMPTOMS FOR MORE THAN 5 YEARS ***AND*** ADDITIONAL RISK FACTORS (NOCTURNAL REFLUX SYMPTOMS, HIATAL HERNIA, ELEVATED BMI, INTRA-ABDOMINAL DISTRIBUTION OF BODY FAT, TOBACCO USE) MAY BENEFIT FROM SCREENING ENDOSCOPY. WOMEN DO NOT REQUIRE ROUTINE ENDOSCOPIC SCREENING FOR BARRETT ESOPHAGUS. EVIDENCE DOES NOT SUPPORT ROUTINE SCREENING FOR BARRETT ESOPHAGUS BASED ON GERD SYMPTOMS FOR THE GENERAL POPULATION.

#3 – H. PYLORI

- A 45-year-old woman is evaluated in follow-up after being treated for a *Helicobacter pylori*–related duodenal ulcer 1 month ago. She successfully completed a 14-day course of clarithromycin, amoxicillin, and omeprazole, and reports her symptoms have resolved.
- Physical examination is unremarkable.
- What is the most appropriate testing to order at this time?

ANSWER: C – FECAL ANTIGEN NOW

H. PYLORI

WHO SHOULD GET TESTED?

1. ACTIVE PUD (GASTRIC AND/OR DUODENAL ULCER) OR CONFIRMED HX THEREOF
2. UNINVESTIGATED DYSPEPSIA IN PATIENTS YOUNGER THAN AGE 60 YEARS WITHOUT ALARM SYMPTOMS

(ANEMIA; DYSPHAGIA; ODYNOPHAGIA; VOMITING; WEIGHT LOSS; FAMILY HISTORY OF UPPER GASTROINTESTINAL MALIGNANCY; PERSONAL HISTORY OF PEPTIC ULCER DISEASE, GASTRIC SURGERY, OR GASTROINTESTINAL MALIGNANCY; AND ABDOMINAL MASS OR LYMPHADENOPATHY ON EXAMINATION)

3. GASTRIC MUCOSA–ASSOCIATED LYMPHOID TISSUE (MALT) LYMPHOMA
4. FOLLOWING ENDOSCOPIC RESECTION OF EARLY GASTRIC CANCER.

SOFT CALLS:

- UNEXPLAINED IRON DEFICIENCY ANEMIA
- PRIMARY IMMUNE THROMBOCYTOPENIA (PREVIOUSLY TERMED IDIOPATHIC THROMBOCYTOPENIC PURPURA).

CONTROVERSIAL CALLS:

- Chronic NSAID and/or aspirin use
- First-degree family member with gastric cancer

- GERD is NOT a clinical indication for *H. pylori* testing unless they have one of the other items too!

H PYLORI - WHO SHOULD GET TESTED **FOR CURE?**

EVERYBODY!

Testing to confirm eradication should be pursued in everybody given the roughly 25% treatment failure in the US.

- no sooner than 4 weeks after completing antimicrobial therapy
- 2 weeks after PPI stopped
- Use urea breath test or stool antigen testing (not serum antibodies)!

H PYLORI TREATMENT OPTIONS

PPI, standard[a] or double dose twice daily (esomeprazole, once daily only) Clarithromycin, 500 mg twice daily Amoxicillin, 1 g twice daily	14 days	*H. pylori* clarithromycin resistance is known to be <15% No previous history of macrolide exposure for any reason
PPI, standard or double dose twice daily Clarithromycin, 500 mg twice daily Metronidazole, 500 mg three times daily	14 days	*H. pylori* clarithromycin resistance is known to be <15% No previous history of macrolide exposure for any reason Penicillin allergy
PPI, standard dose twice daily Bismuth subcitrate, 120-300 mg or subsalicylate, 300 mg four times daily Tetracycline, 500 mg three times daily Metronidazole, 250 mg four times daily or 500 mg three times daily	10-14 days	Previous macrolide exposure Penicillin allergy
PPI, standard dose twice daily Clarithromycin, 500 mg twice daily Amoxicillin, 1 g twice daily Nitroimidazole, 500 mg twice daily	10-14 days	May be an alternative to standard clarithromycin triple therapy Not validated in North America
PPI, standard dose twice daily Levofloxacin, 500 mg twice daily Amoxicillin, 1 g twice daily	10-14 days	May be an alternative to standard clarithromycin triple therapy Not validated in North America

#4 – Post Roux-en-Y Complications

- A 45-year-old woman is evaluated in follow-up after 6 months after a Roux-en-Y procedure, which was performed for weight loss. Her post operative course went as expected, and she's losing weight appropriately, but she is concerned about the new development of episodic palpitations, sweating, and lightheadedness, as well as diarrhea. Her exam is significant for normal orthostatic vital signs, a well healed scar, and evidence of recent weight loss. She just had labs that showed normal albumin, ferritin, vitamin B_{12}, folate, serum calcium, parathyroid hormone, and 25-hydroxyvitamin D .
- Which post-gastrectomy complication are you concerned for in this patient?

Laughter is the best medicine.

Unless you have diarrhea.

someecards
user card

ANSWER: B – DUMPING SYNDROME

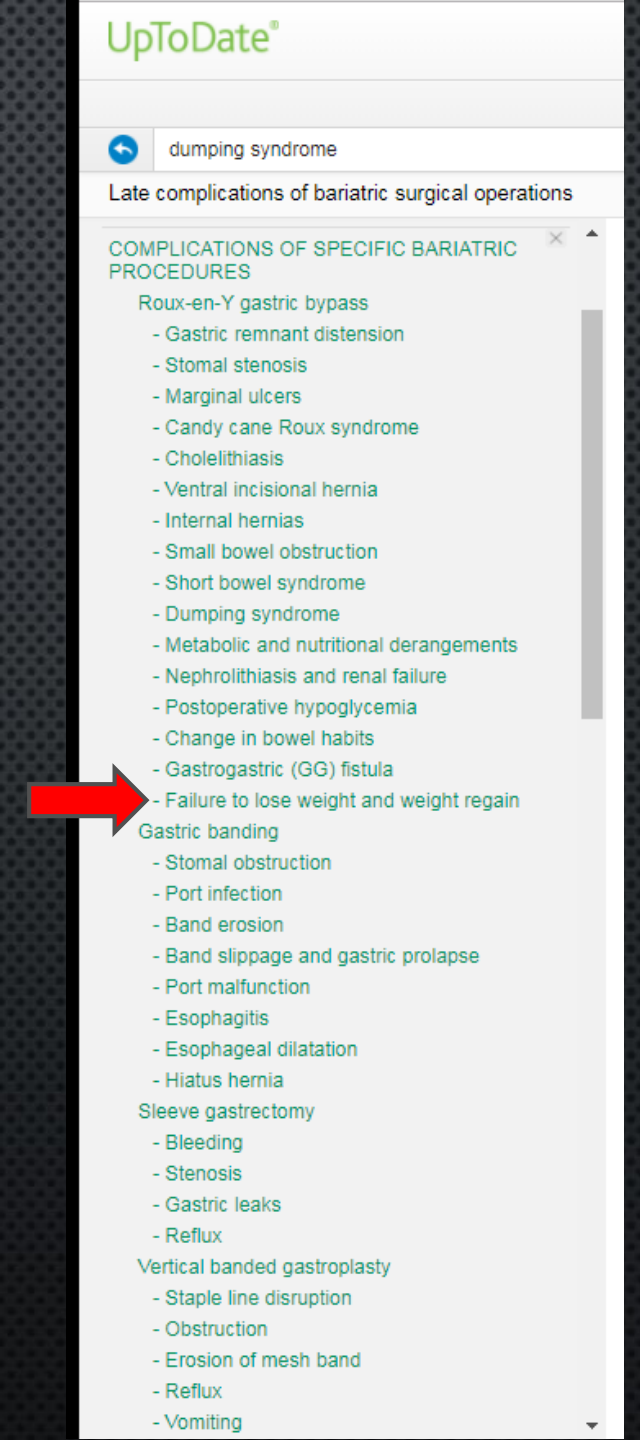
POST BARIATRIC SURGERY COMPLICATIONS!

BUT DON'T BE SCARED…

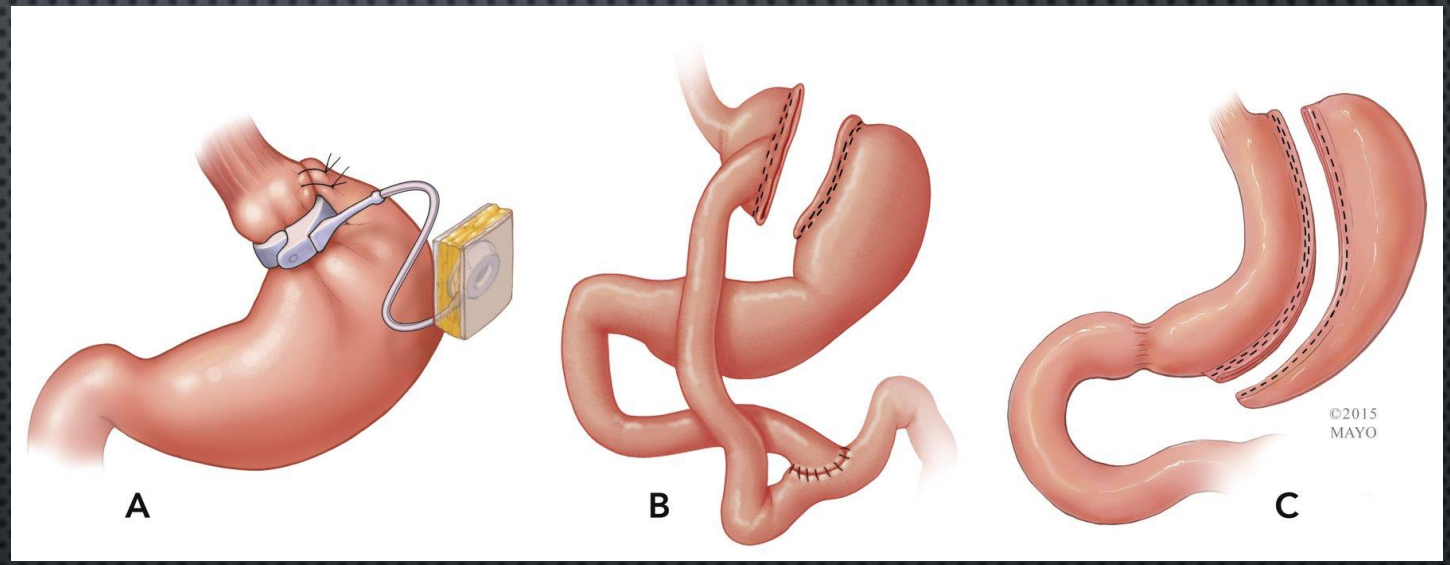
In general, mortality rates are low for bariatric surgery and are reported to be 0.3% to 0.4% at 30 days and 0.8% at 2 years.

In a meta-analysis that compared bariatric surgery with nonsurgical treatment (diet, exercise, behavioral modification, and medications), participants randomized to bariatric surgery lost more weight (26.0 kg [57.3 lb]) and were more likely to experience remission of type 2 diabetes and metabolic syndrome, improved quality of life, and reduced medication use. Evidence suggests that bariatric surgery is also associated with reduced mortality and improvement of obstructive sleep apnea, osteoarthritis, and other conditions.

Bariatric surgery should be considered in all patients with a BMI of 40 or higher and in patients with a BMI of 35 or higher with obesity-related comorbid conditions.



WE DID WHAT TO HER?



COMMONLY PERFORMED SURGICAL PROCEDURES FOR OBESITY. *A*, GASTRIC BANDING; *B*, ROUX-EN-Y GASTRIC BYPASS (MALABSORPTIVE); *C*, SLEEVE GASTRECTOMY.

DUMPING SYNDROME

Post-prandial vasomotor symptoms, including palpitations, sweating, and lightheadedness!

Type 1 = early after surgery, and early after eating (15 minutes)and thought to be from massive fluid shifts into the gut. Usually self-limited.

Type 2 = late (six months post-op) and late after eating (up to 3 hours) - Postprandial hypoglycemia secondary to maladaptive secretion of insulin, dumping syndrome, or nesidioblastosis, which is characterized by hyperplasia of pancreatic islet cells.

Treatment for all three causes are the same: Ingestion of small, frequent meals along with avoidance of simple carbohydrates, which can decrease the frequency and improve the symptoms of postprandial hypoglycemia.

Pancreatic resection!? UpToDate and MKSAP disagree – good luck.

VITAMIN DEFICIENCIES

In patients undergoing malabsorptive procedures, Endocrine guidelines recommend testing for albumin, ferritin, vitamin B_{12}, folate, serum calcium, parathyroid hormone, and 25-hydroxyvitamin D every 6 months postoperatively for the first 2 years and then annually thereafter.

Measurement of vitamins A, vitamin B_1, and zinc is considered optional.

Bone mineral density measurement is also recommended annually after the procedure until stable.

BLIND LOOP SYNDROME

Bacterial overgrowth in a loop manifested by fat and B12 malabsorption, and a low D-xylose absorption test.

NEPHROLITHIASIS:

RYGB has been linked to metabolic changes that could alter urine chemistry profiles, resulting in both higher calcium oxalate supersaturation and urine oxalate, lower citrate, and lower volume. Consequently, patients have a higher risk of developing nephrolithiasis after RYGB

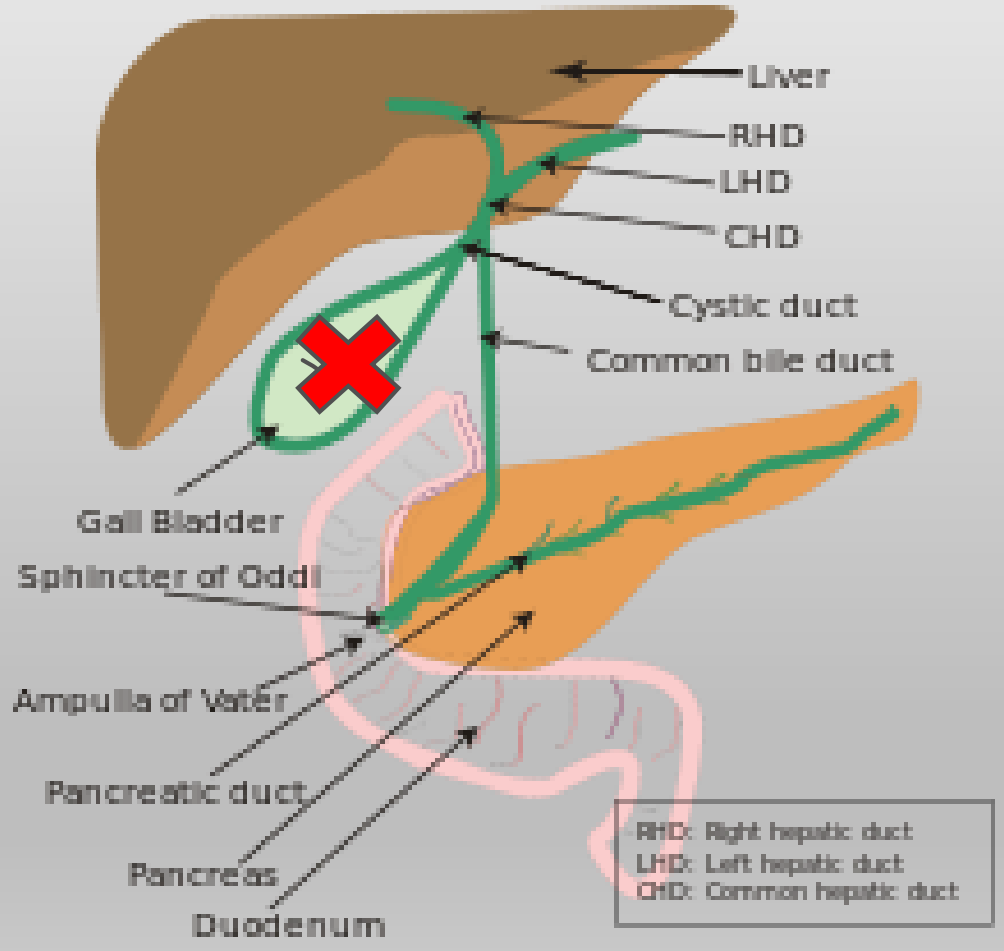
#5 – Biliary System

- A 73-year-old woman was admitted to the hospital 12 hours ago with fever, epigastric abdominal pain, and jaundice. She was hypotensive on admission to the emergency department but improved after receiving intravenous antibiotics and fluids. One hour ago the epigastric pain recurred and she again became febrile and hypotensive. She is transferred to the ICU, and her blood pressure improves with administration of fluids. She has no history of liver or biliary disease. Her only medication is piperacillin-tazobactam.
- On physical examination, temperature is 39.3 °C (102.7 °F), blood pressure is 106/60 mm Hg, pulse rate is 102/min, and respiration rate is 22/min. Oxygen saturation is 96% breathing ambient air. Jaundice is noted. Abdominal examination reveals right upper quadrant tenderness but no hepatomegaly, ascites, abdominal guarding, or tenderness to percussion.
- Labs: hgb 12, WBC 19, Creatinine 1.0, AST 453, Bilirubin 8.3
- Ultrasound of the right upper quadrant reveals dilated intrahepatic and extrahepatic bile ducts, gallstones, a normal gallbladder wall, and no pericholecystic fluid. The pancreas is not well visualized.
- Which of the following is the most appropriate management?

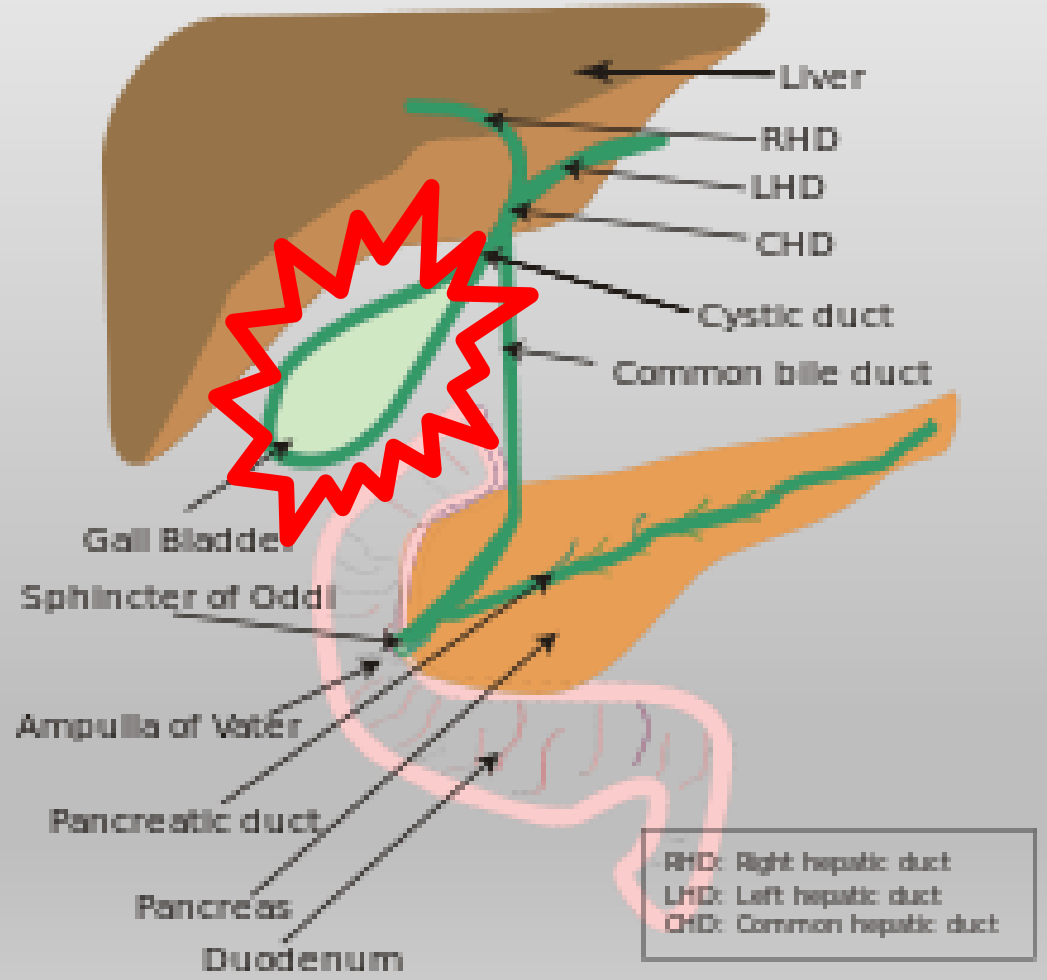
#5 ANSWER: B – ERCP WITH SPHINCTEROTOMY

CHOLEY-WHAT?

CHOLE-LITHIASIS

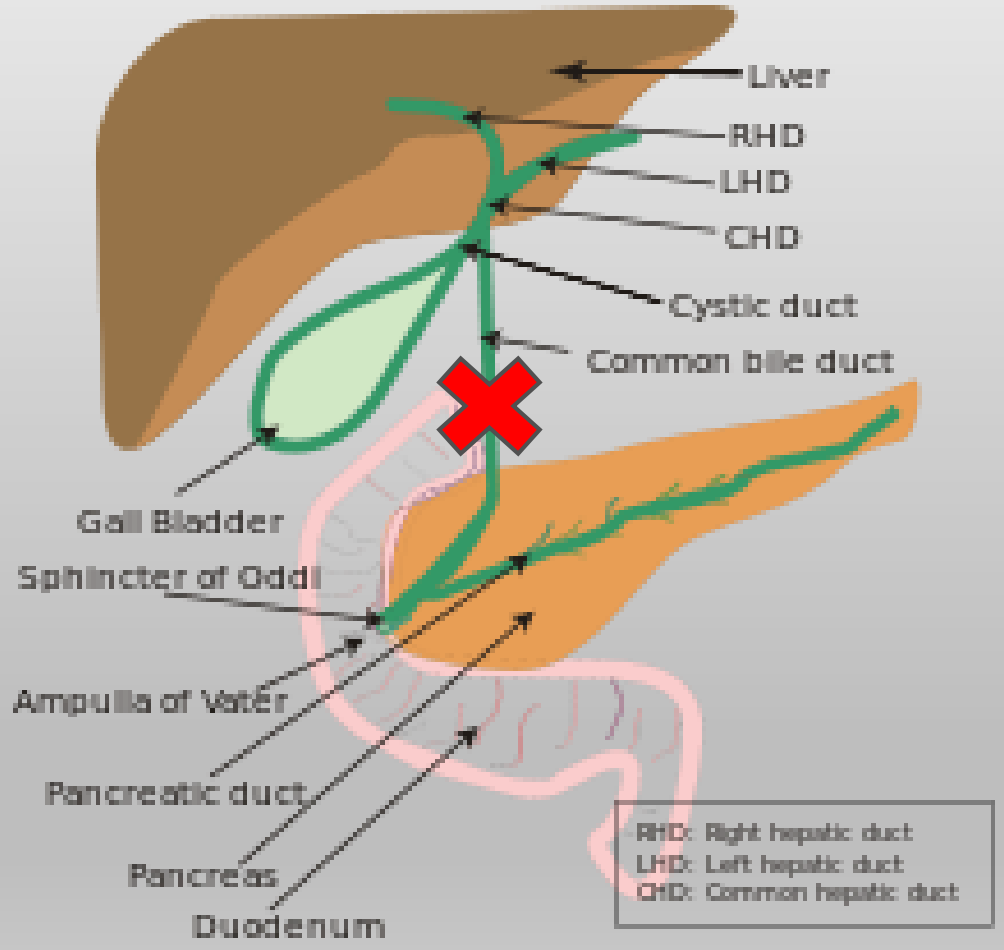


CHOLE-CYSTITIS

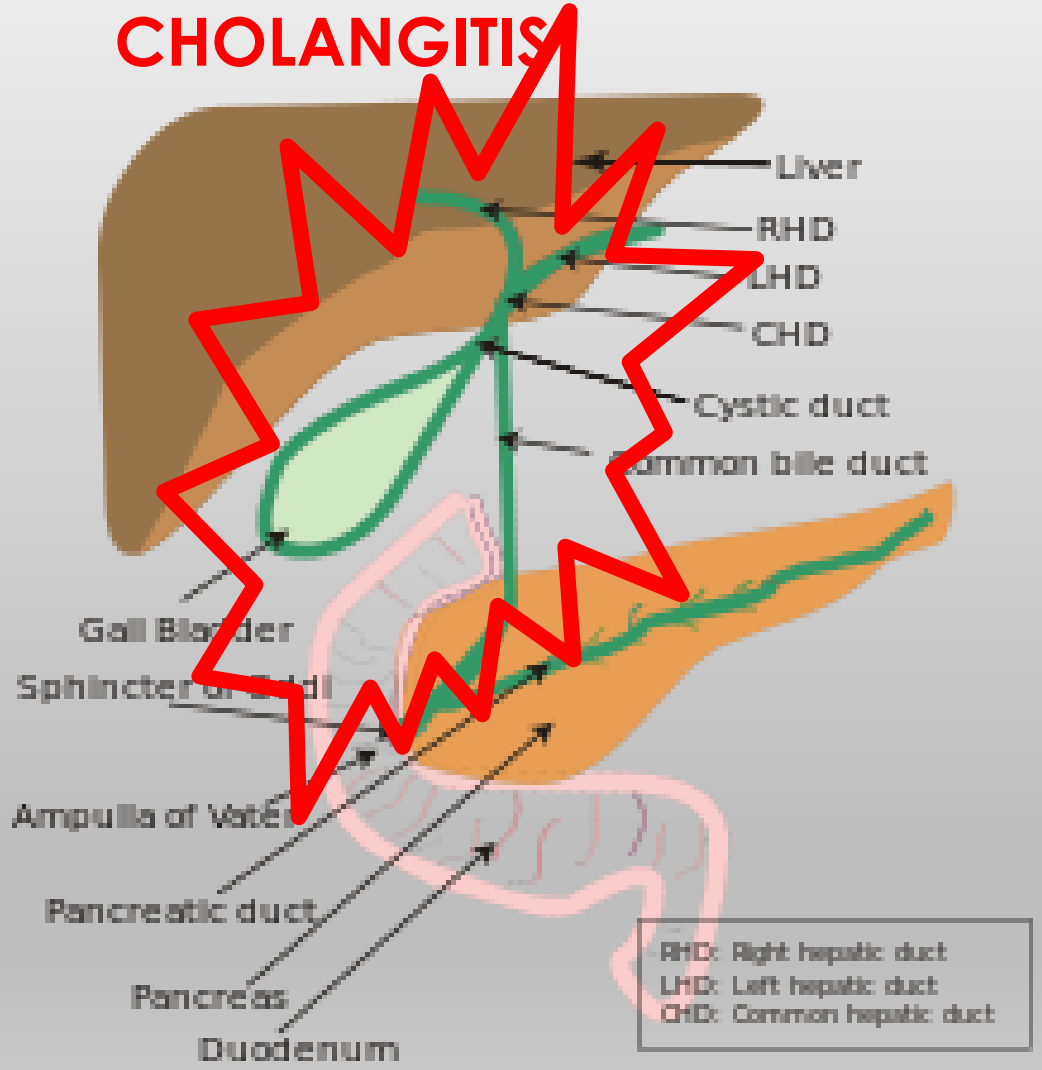


CHOLEY-WHAT?

CHOLE-DOCHO-LITHIASIS

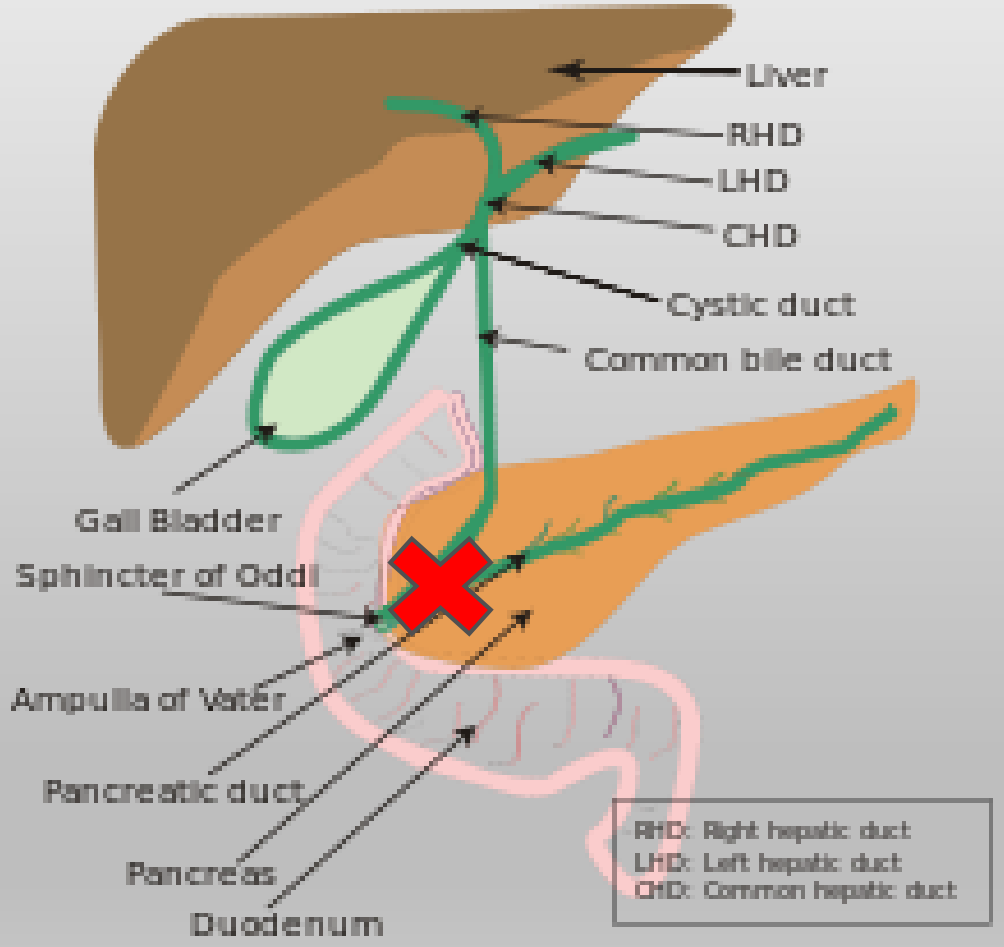


CHOLANGITIS

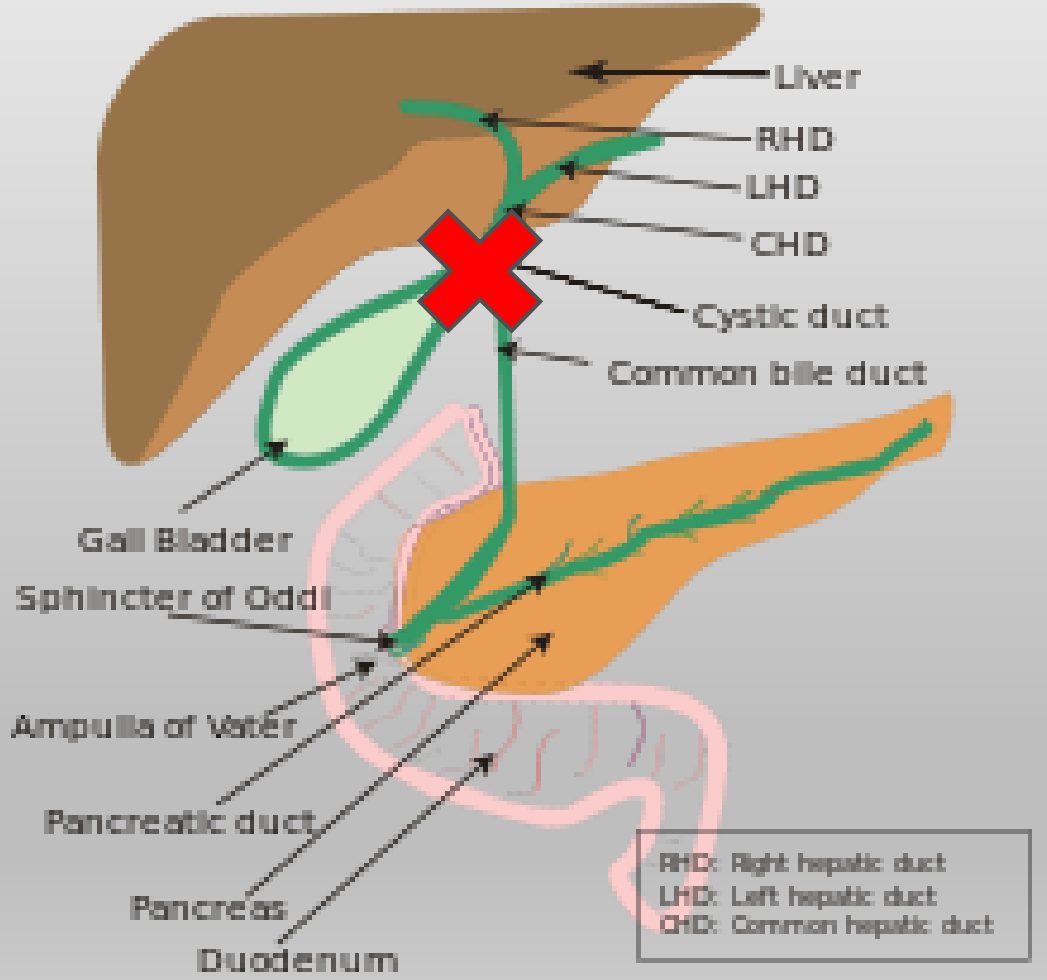


CHOLEY-WHAT?

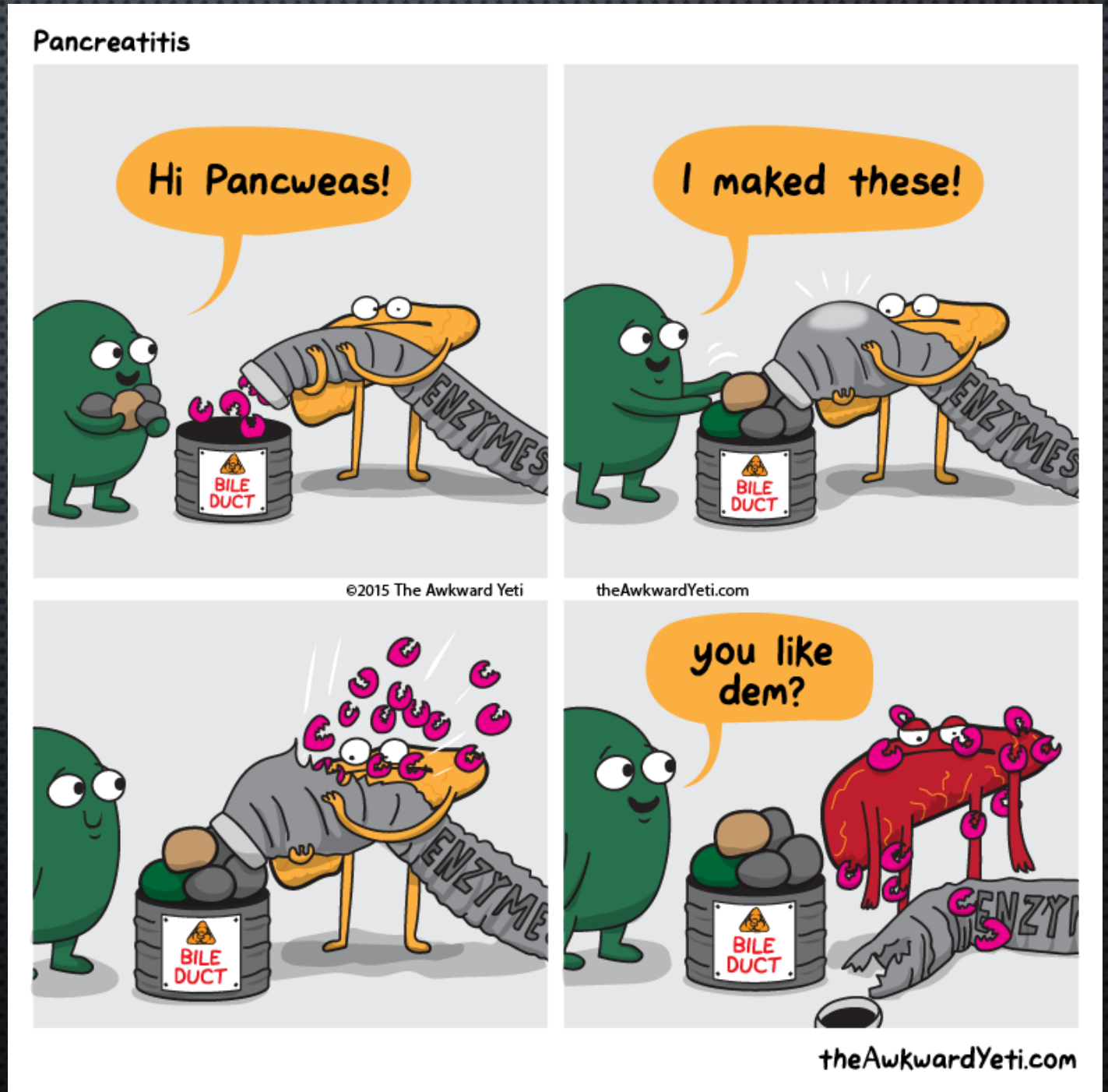
GALLSTONE PANCREATITIS



MIRRIZZI SYNDROME



GALLSTONE PANCREATITIS



CHOLEDOCOLITHIASIS AND CHOLANGITIS

Clinical Syndrome:

- Fever
- Abdominal Pain
- Jaundice
- Hypotension
- Altered mental status

Charcot

Reynold

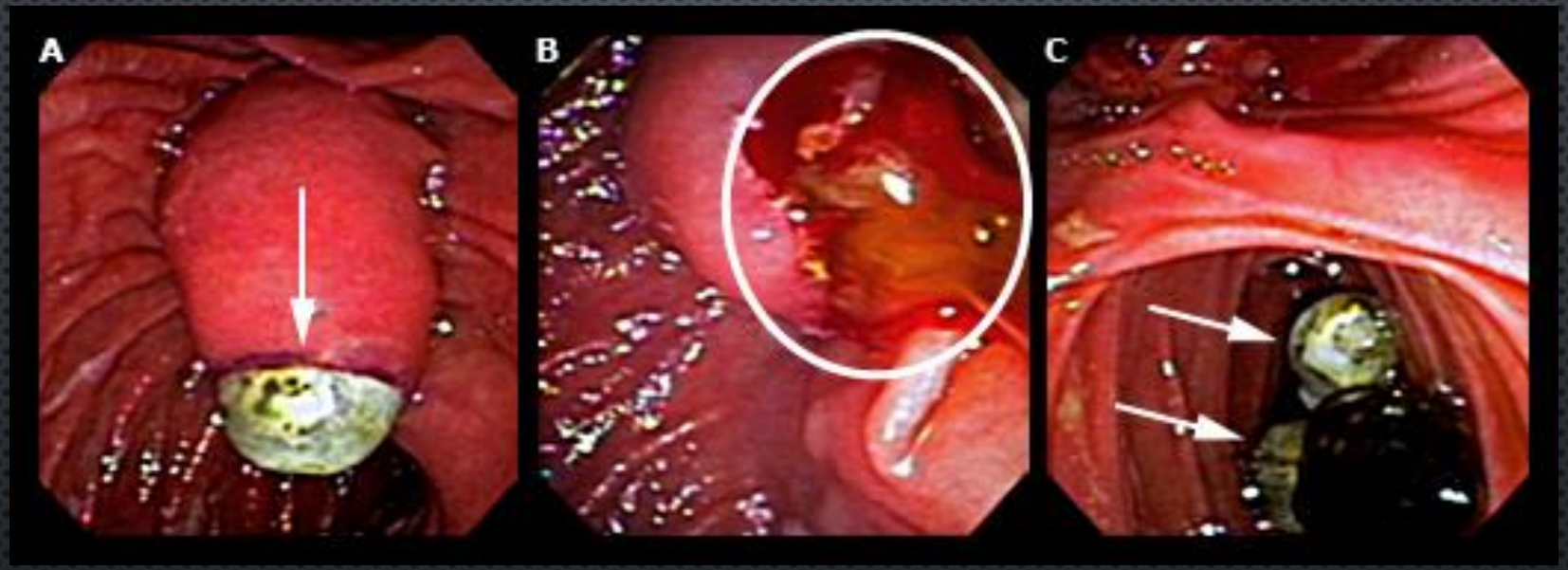
Diagnosis:

- Suspected: fever/rigors, labs consistent with inflammation, AND jaundice OR abnormal LFTs
- Definite: Suspected PLUS biliary dilation on imaging, or stone/stent/stricture

- Treatment:

- Obtain blood cultures
- Empiric antibiotics (E. coli, Klebsiella, Enterococcus, Anaerobes)
- ERCP within 24 hours
- MRCP if unsure or EUS if cannot perform MRCP

ERCP - UPTODATE



ERCP showing an impacted stone in the major papilla (Panel A, arrow) in a patient with fever, pain, abnormal liver enzymes, and elevated amylase and lipase. Biliary sphincterotomy was performed with stone extraction using a balloon. Pus was noted soon after stone extraction (Panel B, ellipse). Multiple additional stones were then extracted (Panel C, arrows). Two days after stone extraction, the liver enzymes, amylase, and lipase normalized and the pain and fever resolved.

#6 – Biliary System

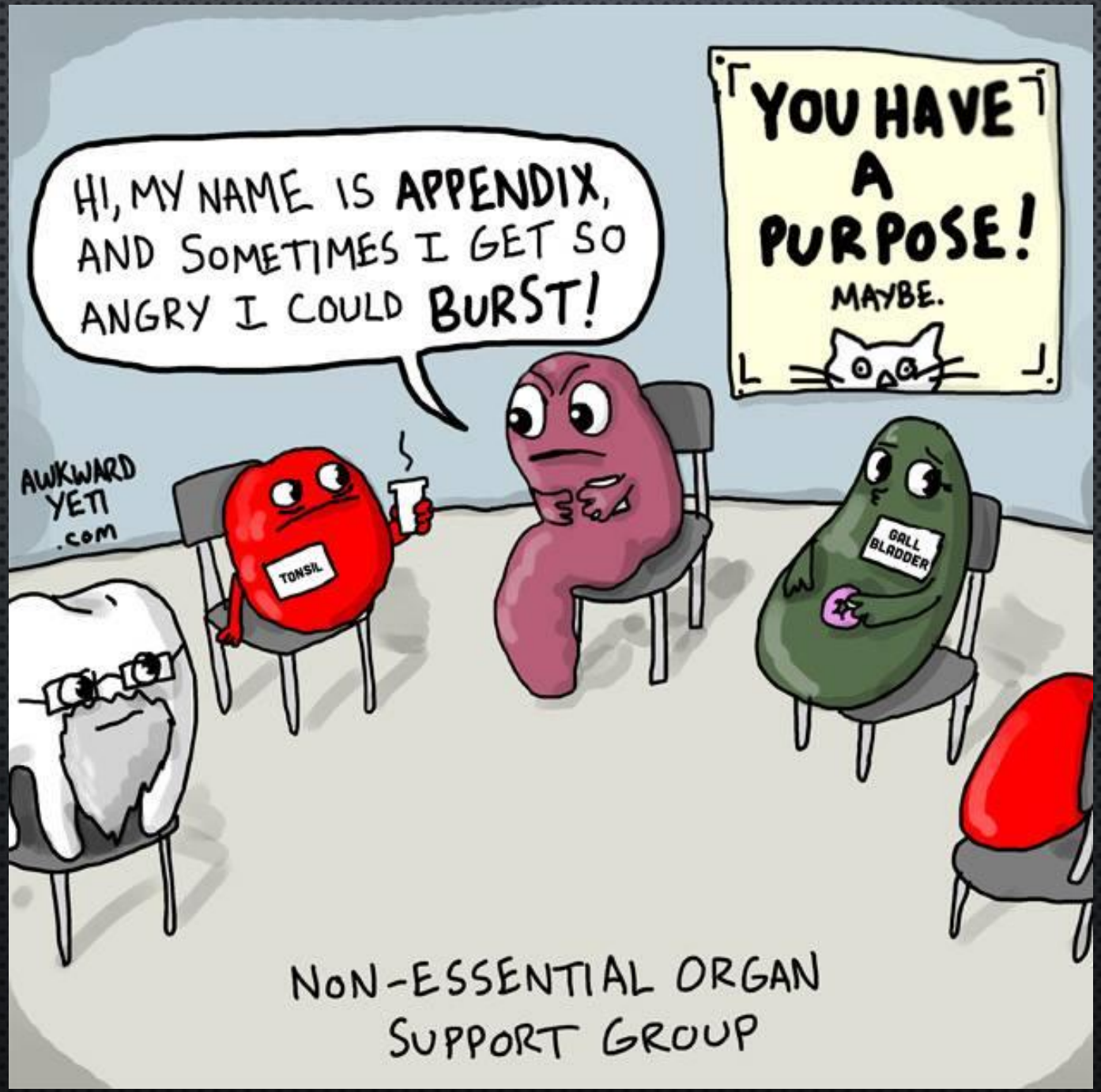
- A 73-year-old man is evaluated in the hospital for a 2-day history of fever and abdominal pain. He has been on mechanical ventilation for 3 weeks owing to an exacerbation of COPD related to pneumonia. His medical history is also notable for coronary artery disease and ischemic cardiomyopathy with a left ventricular ejection fraction of 35%. His medications are piperacillin-tazobactam, albuterol, lisinopril, metoprolol, and diltiazem.
- On physical examination, temperature is 38.9 °C (102.0 °F), blood pressure is 92/60 mm Hg, pulse rate is 110/min, and respiration rate is 18/min on the ventilator. BMI is 32. He is ventilated and sedated. Cardiopulmonary examination reveals a grade 3/6 holosystolic murmur at the apex and coarse breath sounds. Abdominal examination reveals right upper quadrant tenderness. No ascites or hepatosplenomegaly is noted.
- Labs: Hgb 11, Leukocytes 17,000, Creatinine 1.6, AST/ALT/bilirubin all normal.
- Ultrasound reveals an enlarged gallbladder, a thickened gallbladder wall, pericholecystic fluid, no bile duct dilation, no gallstones, and no hydronephrosis.

What is the appropriate management?

#6 ANSWER: E – PERCUTANEOUS CHOLECYSTOSTOMY

ACALCULOUS CHOLECYSTITIS

- SICK PATIENTS!!! (SHOCKY PATIENTS…)
- CHOLECYSTITIS WITHOUT GB STONES – HENCE ACALCULOUS
- PROBABLY BACTERIAL SEEDING OF THE GALLBLADDER WALL OR GALLBLADDER WALL ISCHEMIA
- FEVER, ABD PAIN, WBC BUMP. US = ACUTE CHOLECYSTITIS OR A **RADIONUCLIDE BILIARY SCAN THAT FAILS TO VISUALIZE THE GALLBLADDER**
- PATIENTS ARE USUALLY TOO SICK FOR SURGERY, SO WE PLACE A TUBE AND COVER WITH ANTIBIOTICS FOR ANAEROBES AND GNRS
- APPROXIMATELY 50% OF THESE HIGH-RISK PATIENTS WILL DEVELOP CHOLANGITIS, EMPYEMA, GANGRENE, OR GALLBLADDER PERFORATION DURING THEIR HOSPITALIZATION.
- MORTALITY RATE FOR ACUTE ACALCULOUS CHOLECYSTITIS IS BETWEEN 10% AND 50%.


HI, MY NAME IS APPENDIX, AND SOMETIMES I GET SO ANGRY I COULD BURST!
YOU HAVE A PURPOSE!
MAYBE.
AWKWARD YETI .com
TONSIL
GALL BLADDER
NON-ESSENTIAL ORGAN SUPPORT GROUP

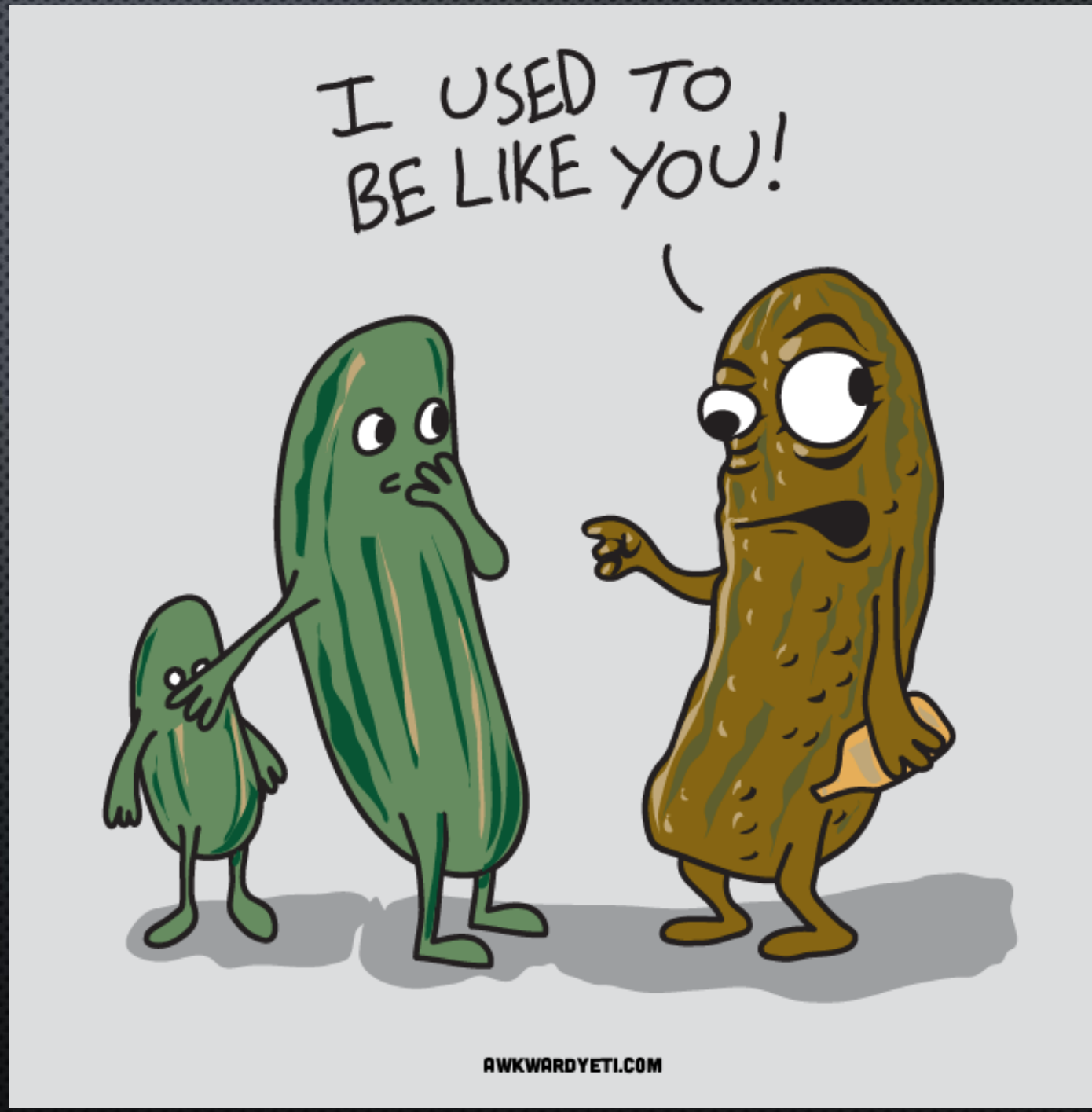
#7 – LIVER

- 43 yo F transferred from a free-standing ED for RUQ pain. There, she presented with jaundice, fever, RUQ pain, and abdominal distension for three days prior to presentation. She reports chronic alcohol use of many years, and a recent "bender" stimulated by conflict with an ex-lover. She has no known past medical history, and has never been hospitalized or told she has liver disease.
- The outside ER obtained a RUQ US, which showed some fatty liver infiltrate, normal caliber ducts, and a normal gallbladder. Duplex was also normal.
- Labs are significant for WBC 15,000, hgb 13, Creatinine 1.5, AST 342, ALT 130, Bilirubin 10, lactate of 5, and a PT/INR of 2.4/18.
- Paracentesis is performed, and is significant for 50 PMNs.

- Which of the following is the appropriate management?

#7 ANSWER: E – CHECK VIRAL HEPATITIS SEROLOGIES

Acute Alcoholic Hepatitis



ACUTE ALCOHOLIC HEPATITIS

- GREAT MIMICKER OF MANY BILIARY DISEASES!!

- THINGS TO REMEMBER:
- IT CAN MIMIC MANY DISEASES, ESPECIALLY CHOLECYSTITIS
- ALCOHOL HISTORY CAN BE CHRONIC OR ACUTE
- AST:ALT 2:1 RATIO, WITH SIGNIFICANT BILIRUBIN AND PT ELEVATION, AS WELL AS LEUKOCYTOSIS WITH NEUTROPHILIC PREDOMINANCE
- CAN BE UP TO 6 WEEKS AFTER LAST DRINK

Presenting sx:

- Jaundice that developed within three months prior to presentation
- Anorexia
- Fever
- Right upper-quadrant/ epigastric abdominal pain
- Ascites
- proximal muscle wasting
- Encephalopathy if severe

YOU MUST RULE OUT:

- SBP
- Acute viral hepatitis
- Acute toxin-induced hepatitis (tylenol, mushrooms)
- Choledocholithiasis, cholangitis, and acalculus cholecystitis
- Budd-Chiari

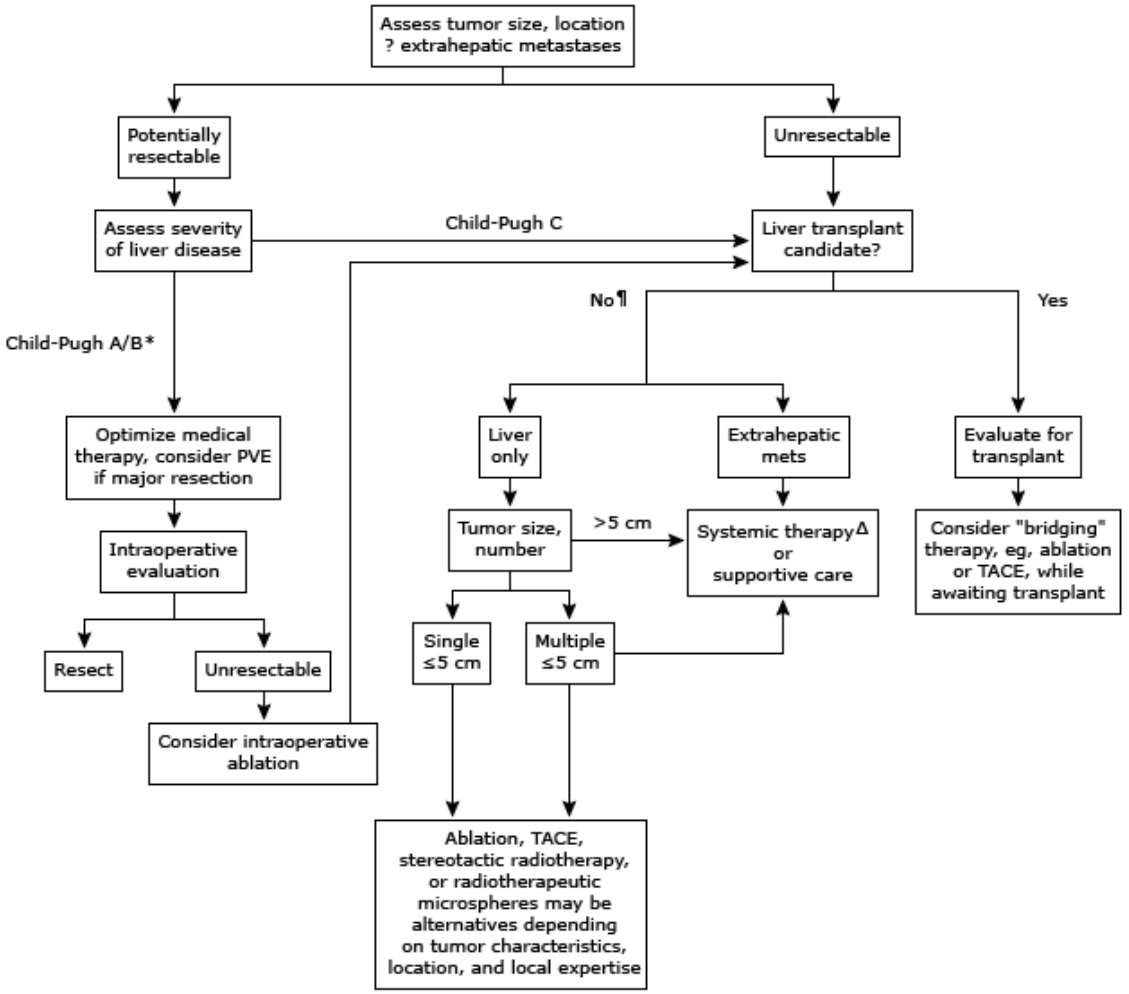
#8 – LIVER

- A 64-year-old man is evaluated for hepatitis C virus–related cirrhosis with decompensation, including previous variceal hemorrhage, and ascites. His medications are furosemide, spironolactone, and nadolol.
- On physical examination, vital signs are normal; BMI is 25. Spider angiomata are seen over the chest, and palmar erythema is noted. The abdomen is distended with flank dullness to percussion. The left liver lobe is palpable 5 cm below the xiphoid process. The spleen is palpable. Bilateral lower-extremity edema is noted. The remainder of the examination is normal.
- A screening ultrasound examination shows a 3-cm mass with poorly defined margins and coarse, irregular internal echoes in the right hepatic lobe. A CT scan of the abdomen with contrast shows a 3-cm arterial enhancing lesion with portal venous phase washout in the periphery of the right lobe. The chest is normal on CT.

- Which of the following is the most appropriate next step in management?

#8 ANSWER: B – TRANSPLANT EVALUATION

Treatment algorithm for hepatocellular carcinoma



PVE: portal vein embolization; TACE: transcatheter arterial chemoembolization.
* Suitability of patients with Child-Pugh B cirrhosis for surgical resection is highly controversial.
¶ If not a liver transplantation candidate because disease is outside transplant (Milan) criteria, downstaging therapy (ablation, TACE) could be considered, followed by reassessment for liver transplantation.
Δ Options for initial systemic therapy include participation in a clinical trial (preferred), sorafenib, lenvatinib, or cytotoxic chemotherapy. (Refer to text.)

UpToDate®

MILAN CRITERIA

- Up to three tumors ≤3 cm
- one tumor ≤5 cm
- No vascular invasion
- No regional node or extrahepatic distant metastases

- If they happen to have a tumor 2 cm or larger get MELD exception points

- 5 year survival is 75%+ after transplant

#9 – HEP B

- A 28-year-old woman is evaluated at 28 weeks' gestation. This is her first pregnancy. She has chronic hepatitis B virus (HBV) infection acquired through vertical transmission. The patient reports feeling well. Her only medication is a prenatal vitamin.
- On physical examination, vital signs are normal. The uterus is enlarged, consistent with 28-week intrauterine gestation. No stigmata of chronic liver disease are noted.
- Laboratory studies are positive for hepatitis B surface antigen and hepatitis B e antigen. The HBV DNA level is 300,000 IU/mL. The results of other studies, including alanine aminotransferase, aspartate aminotransferase, and total bilirubin levels, are within normal limits.
- Which of the following is the most appropriate next step in management?

#9 ANSWER: D - TENOFOVIR

#9 – HEP B IN PREGNANCY

Pregnant women who have hepatitis B virus DNA levels greater than 200,000 IU/mL at 24 to 28 weeks' gestation should be treated with tenofovir to prevent vertical transmission during delivery.

- Vertical transmission rate as high as 90%
- Approved oral drugs are lamivudine, telbivudine, and tenofovir
- Breastfeeding is not contraindicated during treatment
- Passive immunization with HBV immune globulin and active HBV vaccination should be administered to newborns within 12 hours of delivery

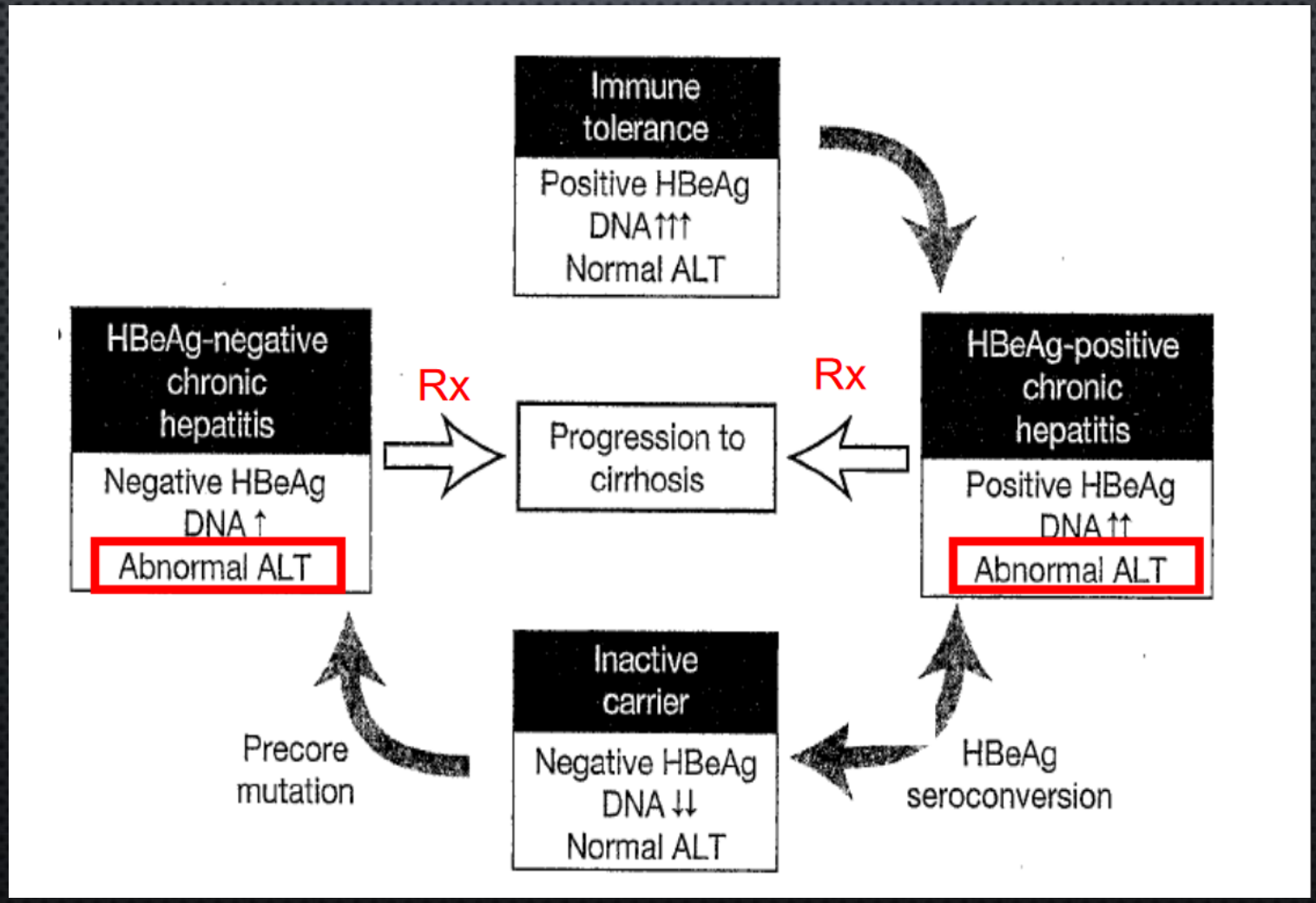
- These measures can reduce vertical transmission rates by 95%!

#10 – HEP B

- A 29-year-old woman is evaluated during a new-patient appointment. She was diagnosed with hepatitis B virus (HBV) infection 10 years ago; her mother had HBV infection, and it was presumed that the patient acquired the infection at birth. She reports feeling well. Her medical history is otherwise unremarkable and she takes no medication.
- On physical examination, vital signs are normal, as is the remainder of the examination.
- Laboratory studies are positive for hepatitis B surface antigen and positive for hepatitis B e antigen. The serum HBV DNA level is 20,000,000 IU/mL. Alanine aminotransferase and aspartate aminotransferase levels are within normal limits.
- Which of the following is the most appropriate next step in management?

#10 ANSWER:
D – REPEAT LFTS IN 6 MONTHS

#10 – IMMUNE TOLERATE HEP B



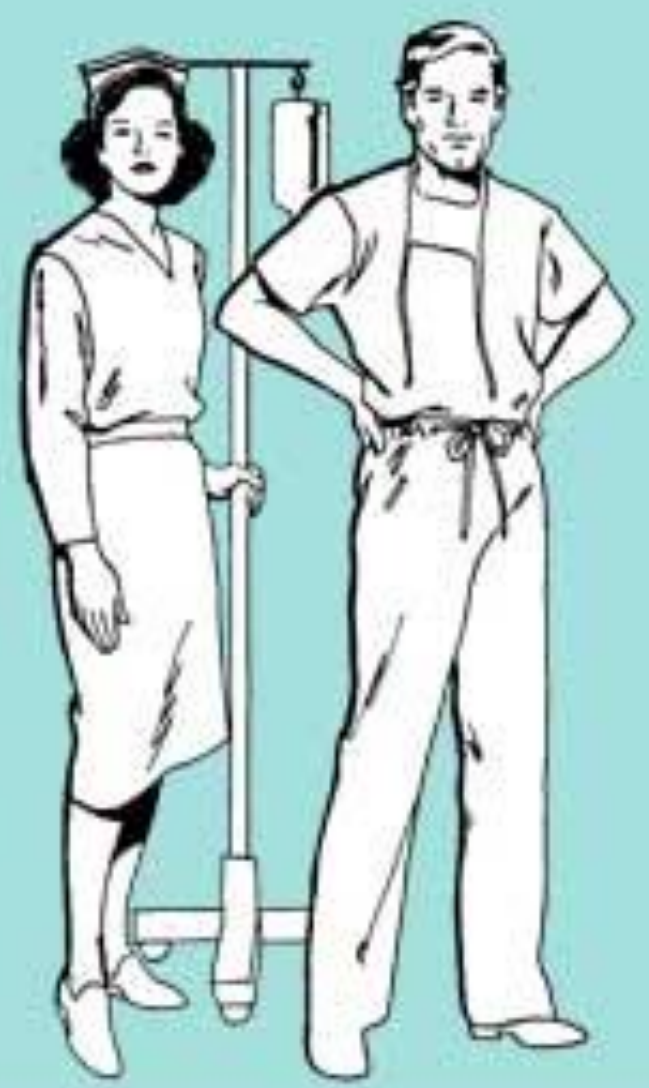
#10 – IMMUNE TOLERATE HEP B

Interpretation of Hepatitis B Virus Test Results

Clinical Scenario	HBsAg	Anti-HBs	IgM anti-HBc	IgG anti-HBc	HBeAg	Anti-HBe	HBV DNA (IU/mL)
Acute hepatitis B; occasionally reactivation of chronic hepatitis B	+	–	+	–	+	–	>20,000
Resolved previous infection	–	+	–	+	–	+/–	Undetected
Immunity due to previous vaccination	–	+	–	–	–	–	Undetected
False positive anti-HBc or resolved previous infection	–	–	–	+	–	–	Undetected
Immune-tolerant chronic hepatitis B (perinatally acquired, age <30 years)	+	–	–	+	+	–	>1 million LFT NL!
Inactive chronic hepatitis B	+	–	–	+	–	+	<10,000
HBeAg-positive immune-active chronic hepatitis B	+	–	–	+	+	–	>10,000 LFT Abnl!
HBeAg-negative immune-reactive chronic hepatitis B	+	–	–	+	–	+	>10,000

I haven't charted
a true respiratory rate
since nursing school.

Just so you know....



someecards
user card

#11 – ASCITES

- A 55-year-old man is evaluated in the hospital for new-onset ascites. He has a history of cirrhosis due to hepatitis C viral infection. His only medication is propranolol.
- On physical examination, pulse rate is 58/min; other vital signs are normal. The abdomen is soft and distended consistent with ascites.
- Laboratory studies show a serum albumin level of 2.5 g/dL (25 g/L), serum total bilirubin level of 3.6 mg/dL (61.6 mmol/L), and serum creatinine level of 1.4 mg/dL (123.8 mmol/L).
- Paracentesis with analysis of ascitic fluid shows a leukocyte count of 200/mL with 30% neutrophils, albumin level of 0.4 g/dL (4 g/L), and total protein level of 0.9 g/dL (9 g/L).
- Which of the following is the next most appropriate step in management?

#11 ANSWER: C – INITIATE CIPRO

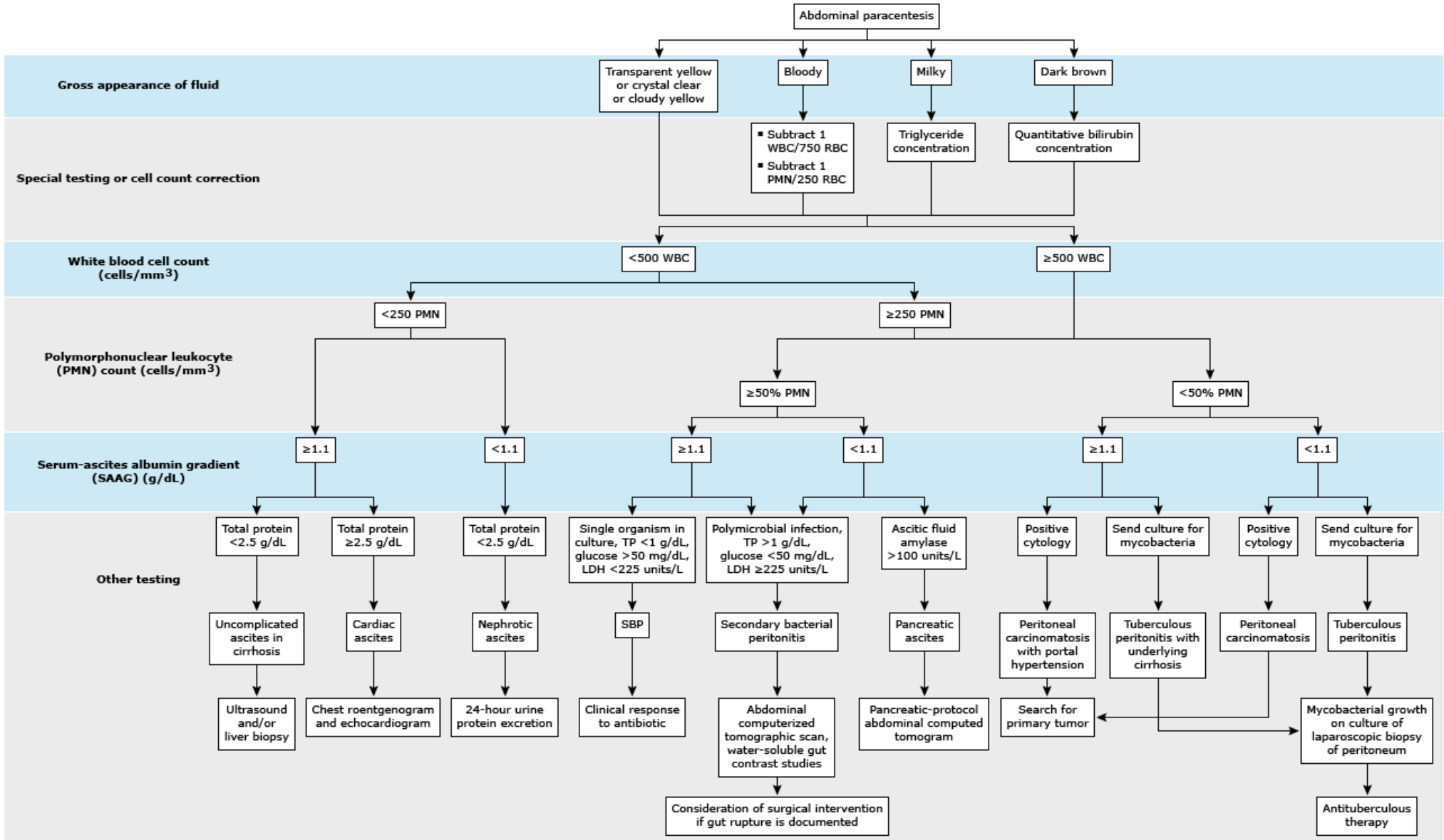
#11 – Ascites and SBP prophy

- Who needs SBP prophy?
- ascitic-fluid total protein level less than 1.5 g/dL in conjunction with any of the following:
- serum sodium level less than or equal to 13
- serum creatinine level greater than or equal to 1.2
- BUN greater than or equal to 25 mg/dL
- Bili greater than or equal to 3 mg/dL
- Child-Turcotte-Pugh class B or C cirrhosis

- Also: previous bouts of SBP
- Post-variceal hemorrhage for 7 days

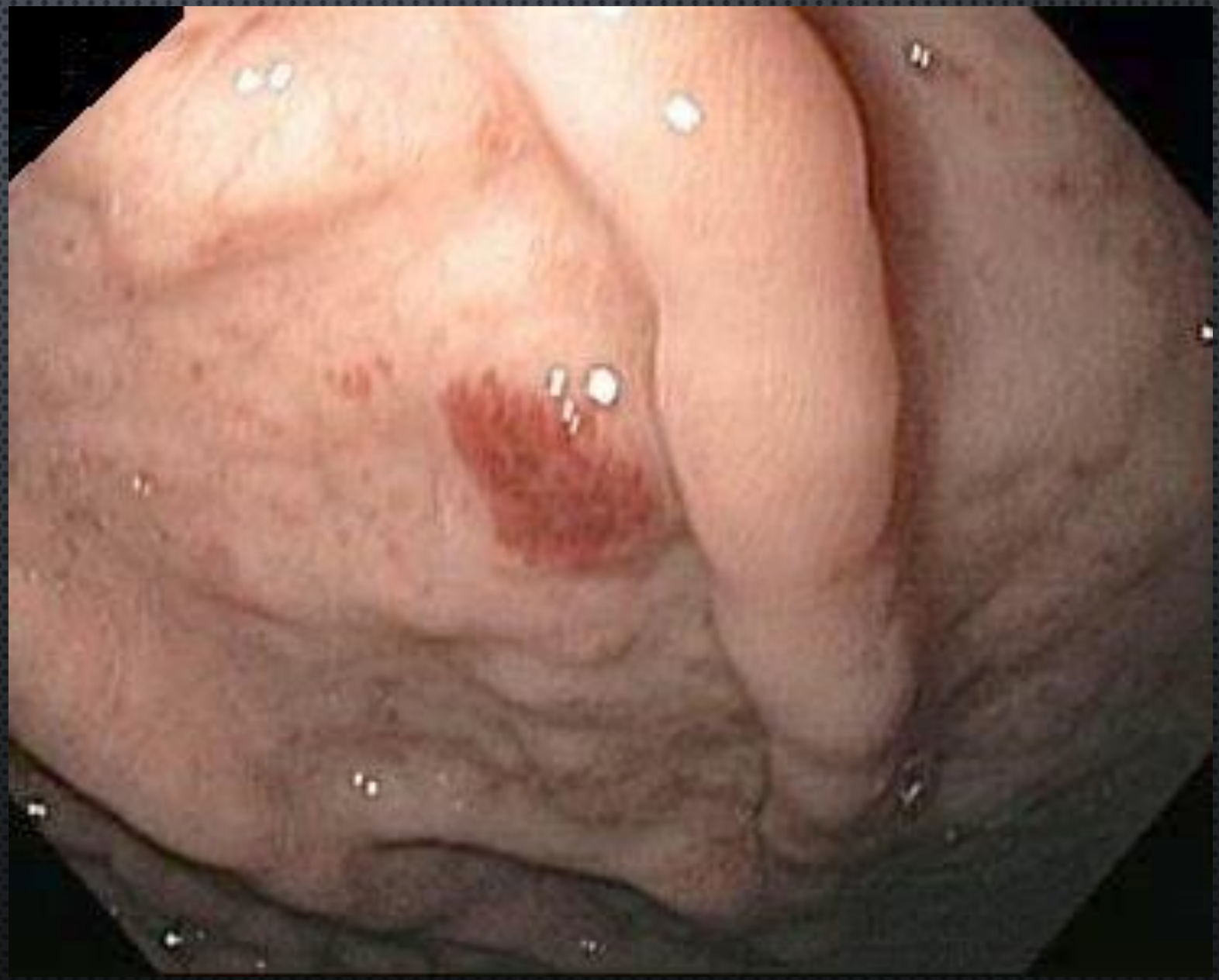
- Sometimes very sick cirrhotics in the hospital….

Differential diagnosis of ascites



WBC: white blood cell; RBC: red blood cell; PMN: polymorphonuclear leukocyte; TP: total protein; LDH: lactate dehydrogenase; SBP: spontaneous bacterial peritonitis.

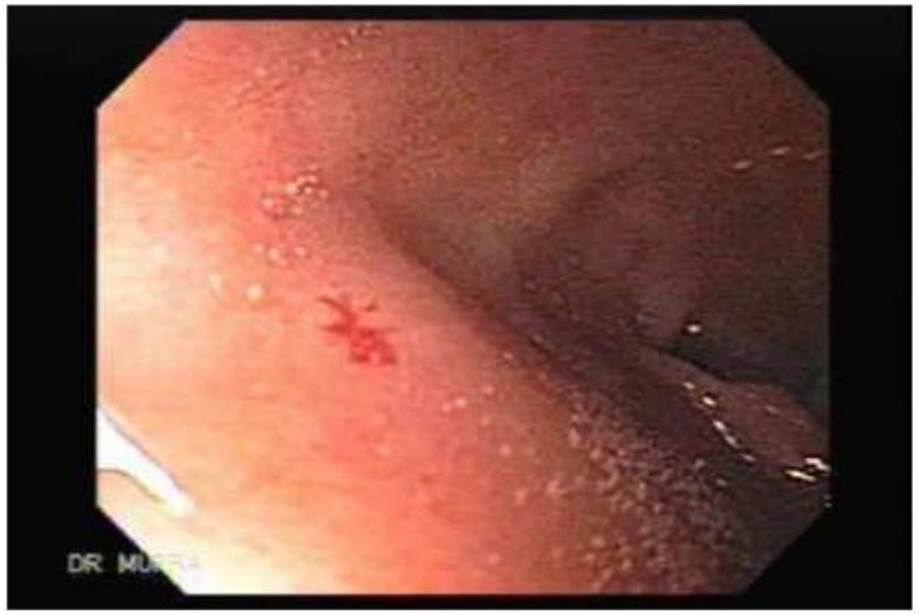
#12 – SOURCES OF UPPER GI BLEED



#12 ANSWER: A – ANEMIA (FROM GASTRIC ANGIODYSPLASIA)

ANOTHER PHOTO OF ONE FROM OUR LECTURE:

Duodenal angioectasia



- Acquired
  - Aging
  - CREST
  - Radiation
- Hereditary

OBSCURE! BUT NOT FOR US

Causes of UGIB?

- Peptic Ulcer → 40%
- Esophagitis → 10%
- Erosive disease → 6%
- Other → 6%
- Mallory Weiss → 5%
- Varices → 5%
- Neoplasm → 4%
- No cause identified → **24%**

Dallal HJ et al. Upper gastrointestinal hemorrhage: the abcs of the upper gastrointestinal tract. BMJ. 2001 Nov 10; 323(7321): 1115–1117.

OBSCURE GIB

Negative Upper and Lower – but still bleeding! Up to 40% of these are from angiodysplasias.

Other causes:
Cameron erosion, Dieulafoy lesion, vascular ectasia

Because these all cause bleeding, anemia is a common finding.

Angiodysplasias:
- ectatic, dilated, thin-walled vessels
- may occur anywhere in GI track but often seen in colon
- prevalence increases with age
- most cases are without "cause" but asst with CKD, vWBD, and AS

#13 – GI BLEEDING

A 75-year-old man is evaluated after hospitalization for an episode of hematemesis. Upon admission, his INR was 2.5. Intravenous proton pump inhibitor therapy was initiated, and his warfarin was held. Endoscopy showed a large duodenal bulb ulcer with an actively bleeding visible vessel; endoscopic hemostasis was achieved. Vital signs have been normal for 24 hours after endoscopy. The patient also has hypertension and atrial fibrillation and a history of transient ischemic attack. His daily medications are warfarin, losartan, and metoprolol.

On physical examination, vital signs are normal; BMI is 32. Other than an irregularly irregular heart rhythm, the physical examination is normal.

What is the appropriate management of this patient's anticoagulation therapy?

#13 ANSWER: A – RESTART WARFARIN NOW!

ANTICOAGULATION WITH GI BLEEDING

ASPIRIN IS EASIER:

ACG Practice Guidelines: management of patients with ulcer bleeding

Condition	Intervention
NSAID	Stop NSAIDs If Required, use Coxib + PPI daily
Low Dose Aspirin	1. Primary CV Prevention → Do not resume ASA in most patients 2. Secondary CV Prevention → Resume ASA soon after hemostasis (1-7days) in most pts and start PPI
Idiopathic	Maintenance PPI
H. Pylori	H. Pylori therapy Document cure Stop PPI

ASA reduces mortality rates by 10 fold in cardiovascular disease over 30 days.

ASA increases bleeding risk by 2 fold.

ANTICOAGULATION WITH GI BLEEDING

- The risk for warfarin-associated bleeding is determined by the INR, patient comorbid conditions, and duration of therapy.
- For INR up to 2.7, normalization of the INR does not reduce rebleeding risk but delays endoscopy and decreases the sensitivity of endoscopy
- Once endoscopic hemostasis has been achieved, anticoagulation should be reinitiated, and usually on the same day, or at the very latest, within 7 days
- Retrospective studies have shown that resumption of warfarin therapy is associated with a decreased risk for mortality and thrombosis without a significantly increased risk for recurrent hemorrhage in patients with gastrointestinal bleeding

THERE IS CRUMMY DATA FOR WARFARIN + GIB!

#14 – MESENTERIC ISCHEMIA

A 60-year-old woman is admitted to the hospital with sudden-onset, cramping abdominal pain of moderate severity in the right lower quadrant, followed several hours later by a bloody bowel movement. She has coronary artery disease; medications are atorvastatin, metoprolol, sublingual nitroglycerin, and low-dose aspirin.

On physical examination, the patient appears comfortable. Pulse rate is 110/min; BMI is 35. Other vital signs are normal. The abdomen is nondistended with normal bowel sounds.

Deep palpation elicits tenderness in the right lower quadrant with no rebound or guarding. A CT scan without contrast shows thickening of the ascending colon. Colonoscopy results show a segment of subepithelial hemorrhage, edema, and erythema from the cecum to the hepatic flexure.

What is the next most appropriate step in evaluation?

#14 ANSWER: A – ACUTE MESENTERIC ISCHEMIA

DIAGNOSE ACUTE MESENTERIC ISCHEMIA

1) Acute arterial mesenteric ischemia

- Pain out of proportion
- Afib, unanticoagulated
- Thromboembolus to SMA
- Known vasculopath
- High mortality: dead bowel

2) Chronic arterial mesenteric ischemia

- Hungry
- Afraid to eat due to pain
- Weight loss
- Known vasculopath

3) Subacute venous-hypertension related mesenteric ischemia

- Unusual hypercoagulable state – often young malignancies
- Polycythemia Vera, Paroxysmal Nocturnal Hemoglobinuria (PNH), nephrotic synd, OCPs
- Occlusive portal vein clot propagates to SMV
- Rarely colonic

4) Non-occlusive – shock, pressors, HF

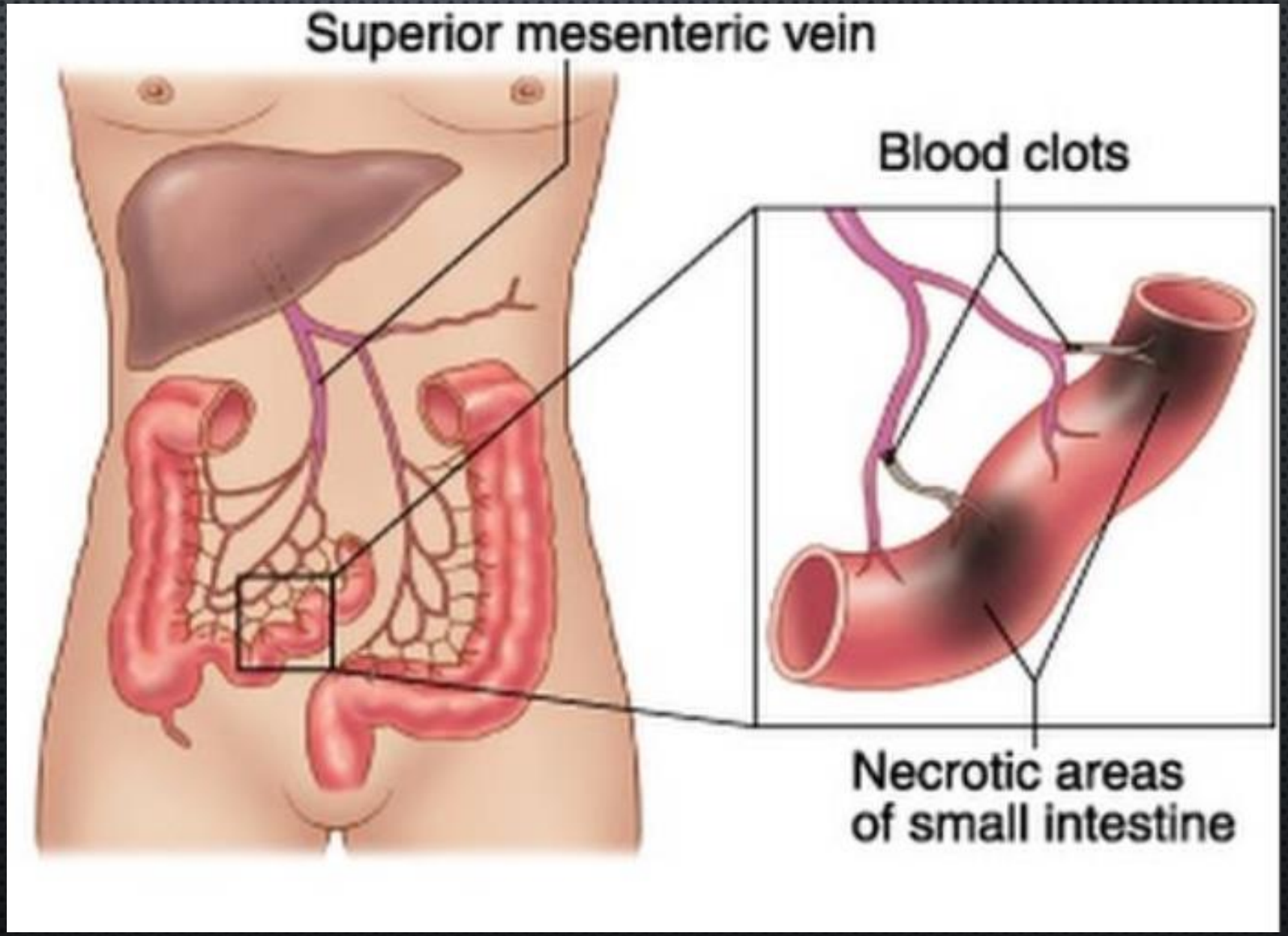
5) Colonic ischemia

- Elderly
- Hypotension /Dehydration event
- Mucosal ischemia especially watershed areas (splenic flexure and sigmoid)
- Increase perfusion pressure to treat; avoid hypotension
- No need for angiogram

- 20-25% of cardiac output supports the intestines
- Celiac trunk → esophagus, stromach, proximal duodenum

(not on this picture)

- SMA → distal duodenum, jejunum, ileum, colon to splenic flexure
- IMA → descending, sigmoid, rectum

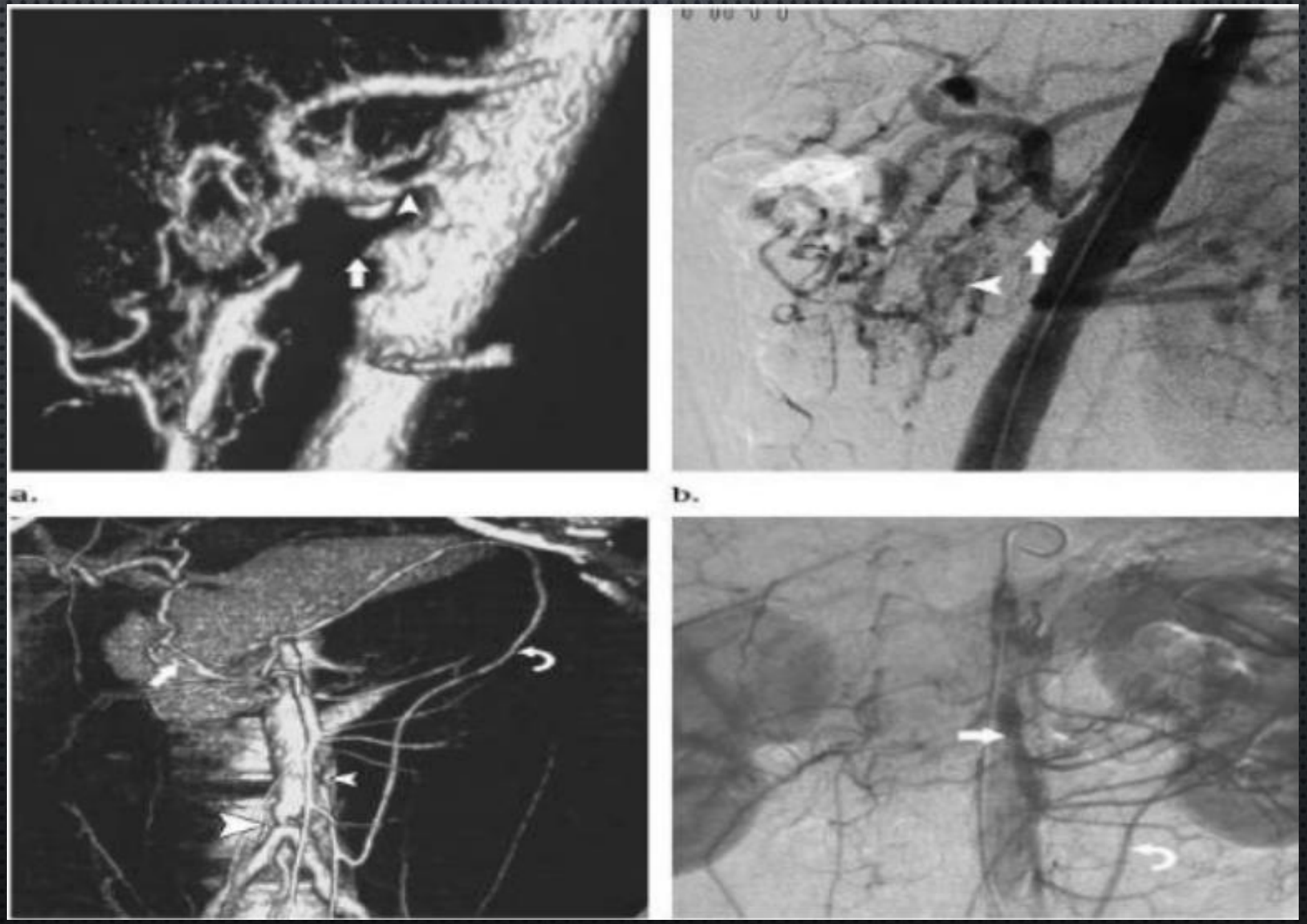


PROGNOSIS:

- Most important factor is time to treaetment of embolus.
- Intestinal viability achieved in 100% if <12 hours, 56% if 12-24hrs, and 18% if >24 hours
- All cause mortality 71%! After bowel wall infarction, mortality >90%
- Survivors often of re-thrombosis or short-gut syndrome
- Worse if older, CKD/CLD, more acidotic, septic,

- Looking for: bowel wall thickening + one of the following:
- Lack of bowel wall enhancement
- Solid organ infarcot
- Actual thrombosis

- **Sensitivity → 96%**
- **Specificity 94%**



#15 – ACUTE PANCREATITIS

A 34-year-old woman is evaluated 4 days after being hospitalized for severe epigastric abdominal pain associated with nausea and vomiting. At the time of hospitalization, her serum lipase level was 4650 U/L and an abdominal ultrasound examination showed cholelithiasis. She has taken nothing by mouth (NPO) since hospitalization and reports having no appetite. She is being treated with intravenous fluids and opioid pain medication. A CT scan of the abdomen and pelvis with contrast showed changes consistent with pancreatic necrosis. Her medical history is unremarkable and she took no medication before hospitalization.

On physical examination, temperature is 38 °C (100.4 °F), blood pressure is 130/70 mm Hg, pulse rate is 90/min, and respiration rate is 15/min. Abdominal examination shows tenderness in the epigastrium with no abdominal distention.

Which of the following is the next best step?

#15 ANSWER: A – INITIATE ENTERAL FEEDING

ACUTE PANCREATITIS MANAGEMENT GUIDELINES

- Hydrate Aggressively!
- Control symptoms
- Feed early!

Initial management

12. Aggressive hydration, defined as 250-500 ml per hour of isotonic crystalloid solution should be provided to all patients, unless cardiovascular and/or renal comorbidites exist. Early aggressive intravenous hydration is most beneficial the first 12–24 h, and may have little benefit beyond (strong recommendation, moderate quality of evidence).
13. In a patient with severe volume depletion, manifest as hypotension and tachycardia, more rapid repletion (bolus) may be needed (conditional recommendation, moderate quality of evidence).
14. Lactated Ringer's solution may be the preferred isotonic crystalloid replacement fluid (conditional recommendation, moderate quality of evidence).
15. Fluid requirements should be reassessed at frequent intervals within 6 h of admission and for the next 24–48 h. The goal of aggressive hydration should be to decrease the blood urea nitrogen (strong recommendation, moderate quality of evidence).

Nutrition in acute pancreatitis

26. In mild AP, oral feedings can be started immediately if there is no nausea and vomiting, and abdominal pain has resolved (conditional recommendation, moderate quality of evidence).
27. In mild AP, initiation of feeding with a low-fat solid diet appears as safe as a clear liquid diet (conditional recommendations, moderate quality of evidence).
28. In severe AP, enteral nutrition is recommended to prevent infectious complications. Parenteral nutrition should be avoided unless the enteral route is not available, not tolerated, or not meeting caloric requirements (strong recommendation, high quality of evidence).
29. Nasogastric delivery and nasojejunal delivery of enteral feeding appear comparable in efficacy and safety (strong recommendation, moderate quality of evidence).

Is oral enteral feeding OK? Yes.

It actually helps keep a healthy gut mucosal barrier and prevents infection!

#16 – PANCREATITIS ETIOLOGY

A 60-year-old man is evaluated following the diagnosis of acute pancreatitis. Abdominal ultrasonography showed a normal gallbladder, biliary system, and liver, but the pancreas was not well visualized due to overlying loops of bowel. He reports decreased appetite, vague new back pain, and an unintentional 6.9-kg (15.2-lb) weight loss over the preceding 6 months. He does not smoke or drink alcohol. He takes no medication.

On physical examination, vital signs are normal; BMI is 20. Abdominal examination shows a thin abdomen with tenderness to deep palpation in the epigastrium. No jaundice is noted.

Which of the following is the most appropriate management?

#16 ANSWER: A – CT WITH CONTRAST

EVAL OF PANCREATITIS

- 80% of cases are caused by gallstones and/or alcohol.

- Microlithiasis = 1-to-2 mm stones not visible on imaging

- Less common:
- Meds – Lasix, HCTZ, 6-MP, azathioprine, simvastatin, flagyl, estrogens
- Hypertriglyceridemia
- Hypercalcemia
- Post ERCP
- Malignancy

- Rare:
- Autoimmune
- Infections – mumps, CMV, coxsackie
- Trauma, scorpions
- Celiac
- genetic

When to think of IGG4 disease:

- Other IgG4 stuff: cholangitis, salivary gland disorders, mediastinal fibrosis, retroperitoneal fibrosis, tubulointerstitial disease, and inflammatory bowel disease – and a separate kidney disease
- Recurrent attacks
- Mass or prominence on imaging – 85%
- Strictures – esp of the pancreatic and proximal hepatic ducts – causing jaundice

One-half to two-thirds responded to steroids, but one-quarter required repeat course.

BACK TO ACG GUIDELINES FROM 2013:

2. Contrast-enhanced computed tomographic (CECT) and/or magnetic resonance imaging (MRI) of the pancreas should be reserved for patients in whom the diagnosis is unclear or who fail to improve clinically within the first 48–72 h after hospital admission (strong recommendation, low quality of evidence).

Etiology

3. Transabdominal ultrasound should be performed in all patients with acute pancreatitis (strong recommendation, low quality of evidence).
4. In the absence of gallstones and/or history of significant history of alcohol use, a serum triglyceride should be obtained and considered the etiology if >1,000 mg/dl (conditional recommendation, moderate quality of evidence).
5. In a patient older than 40 years, a pancreatic tumor should be considered as a possible cause of acute pancreatitis (conditional recommendation, low quality of evidence).
6. Endoscopic investigation in patients with acute idiopathic pancreatitis should be limited, as the risks and benefits of investigation in these patients are unclear (conditional recommendation, low quality of evidence).
7. Patients with idiopathic pancreatitis should be referred to centers of expertise (conditional recommendation, low quality of evidence).
8. Genetic testing may be considered in young patients (<30 years old) if no cause is evident and a family history of pancreatic disease is present (conditional recommendation, low quality of evidence).


Pancreas! What happened to your beta cells?!
DORP
Don't you need those to make insulin?
DORP
©2015 The Awkward Yeti
theAwkwardYeti.com
You ARE producing insulin...right?
BLORP?
We have diabetes, don't we?
DORP
theAwkwardYeti.com

#17 – POLYP MEMORIZATION

A 57 year-old woman is evaluated after a recent screening colonoscopy. The colonoscopy disclosed a 12 mm polyp in the ascending colon, which was removed. No other lesions were noted. On pathology, the lesion was found to be a sessile serrated polyp.

Physical examination findings are unremarkable.

Which of the following is the most appropriate time to repeat colonoscopy?

#17 ANSWER: B – 3 YEARS

PROVIDE COLONOSCOPY SURVEILLANCE FOLLOWING A DIAGNOSIS OF A SERRATED POLYP

United States Multi-Society Task Force on Colorectal Cancer recommendations for surveillance and screening intervals in individuals with baseline average risk

Baseline colonoscopy: most advanced finding(s)	Recommended surveillance interval (years)	Quality of evidence supporting the recommendation	New evidence stronger than 2006
No polyps	10	Moderate	Yes
Small (<10 mm) hyperplastic polyps in rectum or sigmoid	10	Moderate	No
1 to 2 small (<10 mm) tubular adenomas	5 to 10	Moderate	Yes
3 to 10 tubular adenomas	3	Moderate	Yes
>10 adenomas	<3	Moderate	No
One or more tubular adenomas ≥10 mm	3	High	Yes
One or more villous adenomas	3	Moderate	Yes
Adenoma with HGD	3	Moderate	No
Serrated lesions			
Sessile serrated polyp(s) <10 mm with no dysplasia	5	Low	NA
Sessile serrated polyp(s) ≥10 mm **OR** Sessile serrated polyp with dysplasia **OR** Traditional serrated adenoma	3	Low	NA
Serrated polyposis syndrome*	1	Moderate	NA

The recommendations assume that the baseline colonoscopy was complete and adequate and that all visible polyps were completely removed.
HGD: high-grade dysplasia; NA: not applicable.
* Based on the World Health Organization definition of serrated polyposis syndrome, with one of the following criteria: (1) at least five serrated polyps proximal to sigmoid, with two or more ≥10 mm; (2) any serrated polyps proximal to sigmoid with family history of serrated polyposis syndrome; and (3) >20 serrated polyps of any size throughout the colon.
Reproduced from: Lieberman DA, Rex DK, Winawer SJ, et al. Guidelines for colonoscopy surveillance after screening and polypectomy: A consensus update by the US Multi-Society Task Force on Colorectal Cancer. Gastroenterology 2012; 143:844. Table used with the permission of Elsevier Inc. All rights reserved.

#18 –CELIAC

A 32-year-old woman is evaluated for a 6-month history of loose stools, bloating, and a 3.2-kg (7-lb) weight loss. Her medical history is otherwise unremarkable. Her brother has type 1 diabetes mellitus, and her mother has autoimmune thyroid disease. She reports no other symptoms and takes no medication.

On physical examination, vital signs and other findings are normal; BMI is 19.

Labs: Hgb 11, AST/ALT 60/42, Ferritin 7, total bilirubin 0.9.

Which of the following is the most appropriate diagnostic text to perform next?

#18 ANSWER: D – TTG SEROLOGY

SCREENING FOR CELIAC

Recommendations

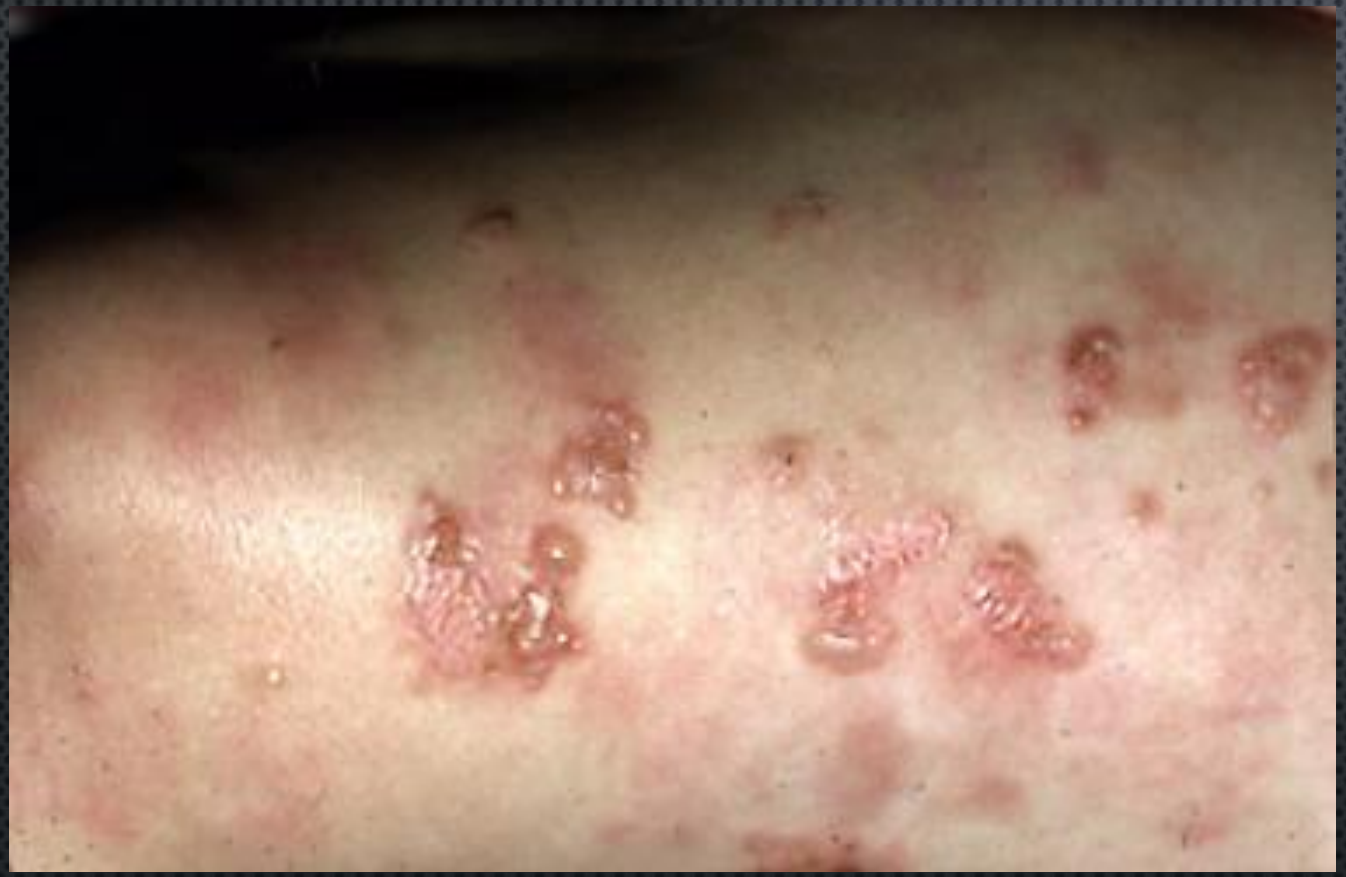
1. Patients with symptoms, signs, or laboratory evidence suggestive of malabsorption, such as chronic diarrhea with weight loss, steatorrhea, postprandial abdominal pain, and bloating, should be tested for CD. (Strong recommendation, high level of evidence)
2. Patients with symptoms, signs, or laboratory evidence for which CD is a treatable cause should be considered for testing for CD. (Strong recommendation, moderate level of evidence)
3. Patients with a first-degree family member who has a confirmed diagnosis of CD should be tested if they show possible signs or symptoms or laboratory evidence of CD. (Strong recommendation, high level of evidence)
4. Consider testing of asymptomatic relatives with a first-degree family member who has a confirmed diagnosis of CD. (Conditional recommendation, high level of evidence)
5. CD should be sought among the explanations for elevated serum aminotransferase levels when no other etiology is found. (Strong recommendation, high level of evidence)
6. Patients with Type I diabetes mellitus (DM) should be tested for CD if there are any digestive symptoms, or signs, or laboratory evidence suggestive of CD. (Strong recommendation, high level of evidence)

Who should get Screened?

- IBS with constipation
- Other GI sx: *weight loss, steatorrhea, nutritional deficiencies) now occurs in a small proportion of patients owing to better recognition of earlier presentations. Chronic diarrhea and abdominal pain*
- Anybody with dermatitis herpetiformis (see next slide)
- Unexplained IDA
- Infertility
- Odd Osteopenia
- Abnormal LFTs

How do we test for it? IgA TTG! May be less sensitive in IgA deficient patients.

DERMATITIS HERPETIFORMIS



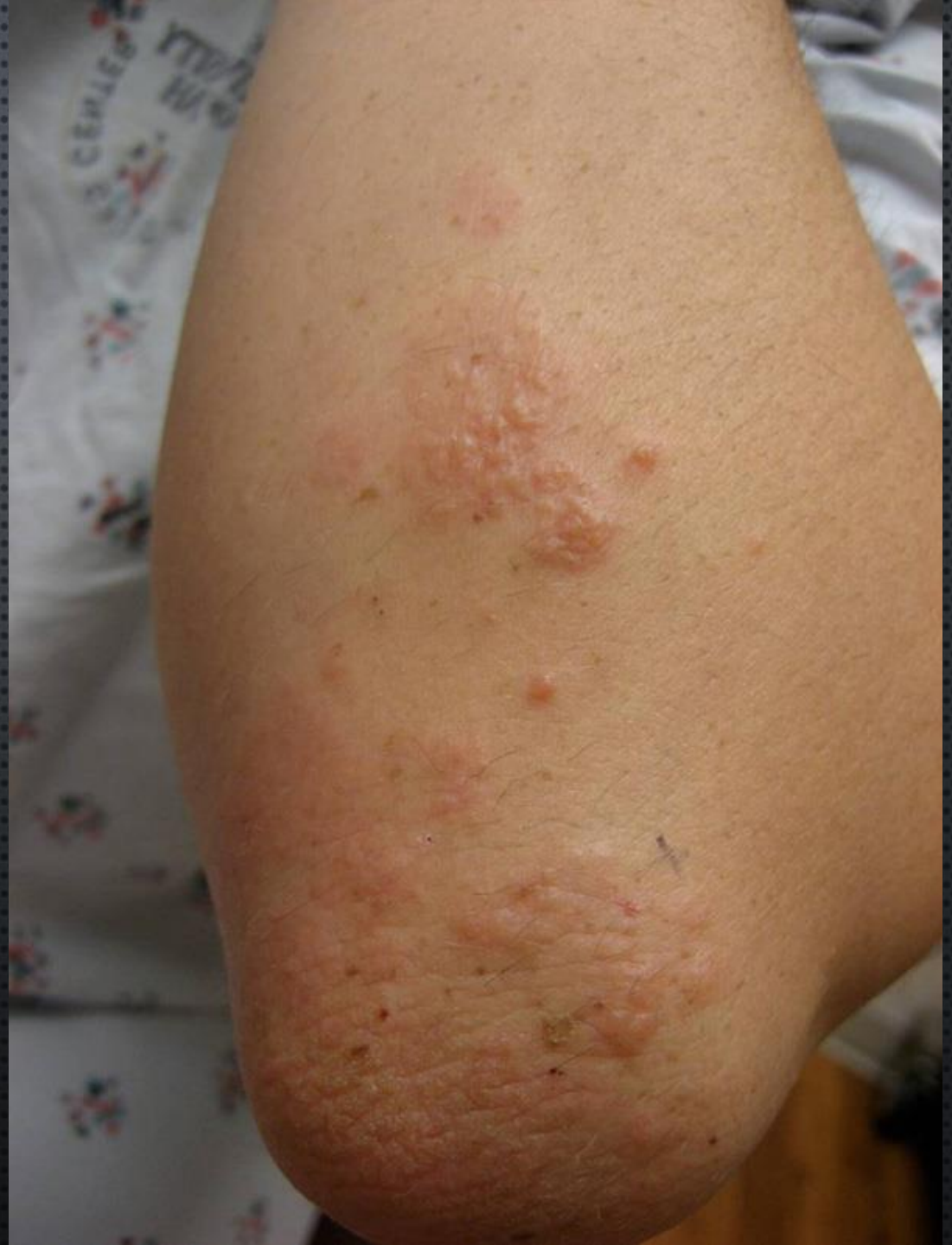


Table 2. Conditions in which CD occurs more frequently than in the general population and/or for whom a GFD may be beneficial

CD common (>2 times prevalence of general population)	CD less common but treatable
Symptomatic malabsorption	Pulmonary hemosiderosis
Diarrhea with weight loss	Unexplained male or female infertility
Chronic diarrhea with or without abdominal pain	Dyspepsia
Chronic iron deficiency and anemia	Amenorrhea
Metabolic bone disease and premature osteoporosis	Chronic fatigue
Postprandial bloating and gaseousness	Apparent malabsorption of thyroid replacement medication
Unexplained weight loss	Epilepsy or ataxia
Abnormal elevated liver enzymes	Constipation
Incidental discovery of villous atrophy endoscopically or histologically	Recurrent abdominal pain
Dermatitis herpetiformis	
Peripheral neuropathy	
Oral aphthous ulcers	
Growth failure	
Discolored teeth or developmentally synchronous enamel loss	
Thyroid disease	
Irritable bowel syndrome	
Down's and Turner's syndromes	

#19 – ACUTE DIARRHEA

A 30-year-old woman is evaluated for a 2-month history of diarrhea with three to five loose stools per day. She has mild abdominal cramps, bloating, intermittent nausea, and mild anorexia that has resulted in the loss of 2.3 kg (5.0 lb). She has had no fever or blood in the stool. She works in a day care center and has not traveled recently or had exposure to antibiotics. She is otherwise healthy and takes no medications.

On exam, temp is 37.0, BP is 112/74, and pulse is 70. The abdomen is soft with normal bowel sounds and mild distension but no tenderness.

What is the next best step?

#19 ANSWER: C – STOOL O&P!

WHO SHOULD GET TESTED FOR O&P?

- Not everybody!
- Stool culture and studies for ova and parasites are reserved for patients with acute secretory diarrhea that does not resolve after 14 days and is associated with systemic symptoms, such as fever, weight loss, or bleeding.

- persistent diarrhea – aka >1 week
- Especially if after travel to Russia, Nepal, or mountainous regions, which is associated with *Giardia*, *Cryptosporidium*, or *Cyclospora*

- Persistent diarrhea with exposure to infants in daycare centers – associated with *Giardia* and *Cryptosporidium*

- Immunocompromised patients – especially CD4 count <200
- Remember – crypto needs its own special heads up for the lab so they can add modified acid fast or trichrome stains

- Men who have sex with men

#20 – GASTROPARESIS

A 45-year-old woman is evaluated for episodic nausea, bloating, and epigastric pain of 5 years' duration. In the past 3 months, the nausea has been accompanied by occasional vomiting. She also reports near-daily heartburn symptoms that have not responded to daily omeprazole. She has a 10-year history of type 2 diabetes mellitus that is treated with metformin and glyburide.
On physical examination, vital signs are normal; BMI is 29. Abdominal examination shows diffuse tenderness to deep palpation with no guarding. Other findings are normal.
Laboratory studies show a blood hemoglobin A_{1C} level of 7.5%. The basic metabolic panel is normal. A complete blood count and liver chemistry tests are normal.

Upper endoscopy shows a moderate amount of retained food in the stomach and patchy erythema of the gastric mucosa. Biopsies of the stomach are normal.

What is the most appropriate next step?

#20 ANSWER: A – GASTRIC EMPTYING STUDY!

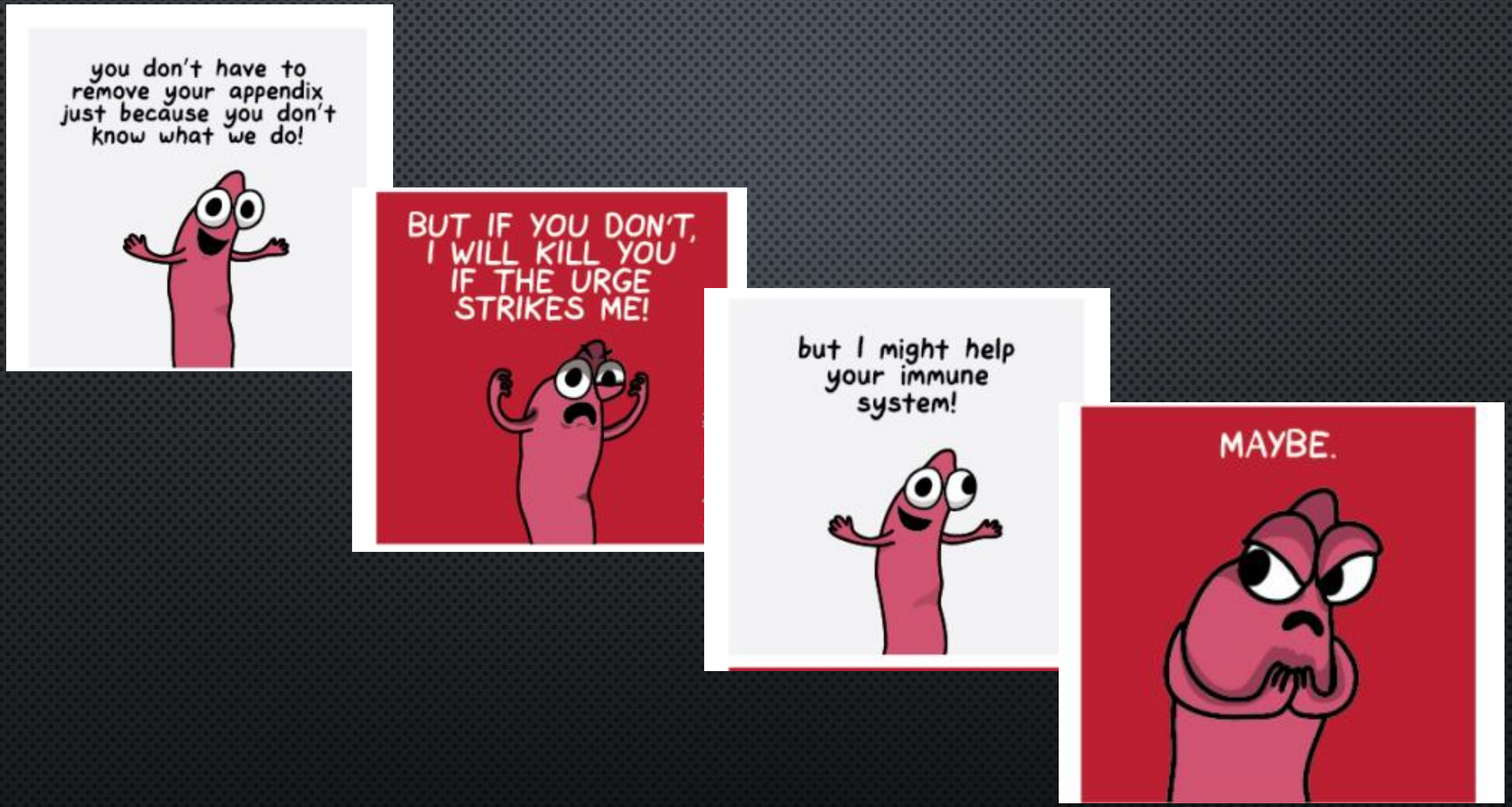
#20 – GASTROPARESIS

A little controversial…Severity of sx don't correlate with study results! So probably something about altered sensation

Diagnosis requires: (1) the presence of specific symptoms; (2) the absence of mechanical outlet obstruction; and (3) objective evidence of delay in gastric emptying into the duodenum (Food present on EGD does not count – only scintigraphy, wireless motility capsule, and gastric emptying breath test)

Commonly reported symptoms: early satiety, postprandial fullness, nausea, vomiting, upper abdominal pain, bloating, and weight loss

Management:
Control diabetes
hydrate
small, frequent meals that are low in fat and soluble fiber
Metoclopramide is the only prokinetic approved in the United States
Erythromycin for no more than 2-3 weeks (tachyphylaxis)
Maybe TCAs and mirtazapine for relief, but not motility


you don't have to remove your appendix just because you don't know what we do!
BUT IF YOU DON'T, I WILL KILL YOU IF THE URGE STRIKES ME!
but I might help your immune system!
MAYBE.

SAVING NEXT SLIDES FOR FUTURE TEST REVIEW PURPOSES

#9 – LIVER

- A 58-year-old woman is evaluated for a 6-month history of gradually progressive fatigue and a 1-month history of generalized pruritus without rash. She also has dry eyes and dry mouth. She has not had fever, jaundice, or weight loss. She has a 3-year history of hypercholesterolemia for which she takes simvastatin. She has no other medical problems.
- On physical examination, vital signs are normal; BMI is 24. Other than excoriations on her arms, legs, and upper back, the physical examination is normal.
- Labs: AST 54, ALT 75, Alk phos 328, Bili 1.2, AMA 1:640.
- RUQ US is normal.
- What is the most likely diagnosis?

#9 ANSWER: C – PRIMARY BILIARY CHOLANGITIS

PRIMARY BILIARY CHOLANGITIS*** NAME ALERT!

- Signs and Symptoms:
  - Classically, middle aged women
  - Asymptomatic OR
  - Fatigue. Dry eyes/mouth, pruritis
  - Xanthomas/Xanthelasma
  - Other autoimmune diseases
  - Isolated elevated alkaline phosphatas
- Diagnosis:
  - No extrahepatic biliary dilatation
  - PLUS 2 of the following:
  - Alkaline phosphatase ≥ 1.5 ULN
  - Anti-mitochondrial antibody ≥ 1:40
  - biopsy with destruction of biliary cani
- Treatment:
  - Ursodeoxycholic acid

Barone Rocks The Official Site of John Barone, M.D.	Primary Biliary Cirrhosis PBC	Primary Sclerosing Cholangitis PSC
Clinical	• Females > Males • Middle age • Fatigue & pruritis • Cholestatic Labs	• Males > Females • 20-40's • Progressive obstructive jaundice • Cholestatic Labs
Site of Involvement	Intrahepatic	Intrahepatic & Extrahepatic
Cause of Obstruction	Granulomatous inflammation destroying bile ducts	Fibrosis destroying bile ducts
Key Microscopic Feature	Florid duct lesion (granulomas)	Concentric "onion-skin" fibrosis around bile ducts
Diagnostic clue	Anti-mitochondrial antibodies (AMA) - Antibodies against the subunit of pyruvate dehydrogenase complex	Beaded appearance of bile ducts on cholangiogram/ERCP/MRCP Baronerocks.com
Association	Other autoimmune disorders Sjögrens, RA, etc.	Ulcerative colitis
Long-term Complication	Cirrhosis	Cirrhosis Cholangiocarcinoma

#10 – Bilirubin

- A 45-year-old woman is evaluated in the emergency department for a 1-day history of abdominal pain and fever. She also reports unexpected, heavy menstrual bleeding of 1 day's duration and easy bruising of 2 days' duration. Medical and family histories are unremarkable, and she takes no medications.
- On physical examination, the patient is oriented to person and place, but not time. Temperature is 38.1 °C (100.6 °F), blood pressure is 170/98 mm Hg, pulse rate is 110/min, and respiration rate is 20/min. Other than confusion, neurologic examination is normal. Subconjunctival hemorrhages are present. Cardiopulmonary examination is normal. Abdominal examination reveals tenderness to palpation without guarding or rebound. Pelvic examination shows blood in the vaginal vault with no cervical motion tenderness or adnexal masses.
- Labs: Hgb 9, WBC 10,300, Plt 26,000, AST 45, ALT 62, Bilirubin 2.3, Creatinine 3.2, LDH 1500
- Which of the following is the most appropriate diagnostic test to perform next?

#10 ANSWER: B – PERIPHERAL SMEAR!!

TTP!!

- Don't be fooled – not all that wheezes is asthma, and not all that bilirubins is GI!!!

- This patient likely has thrombotic thrombocytopenic purpura (TTP). TTP should be suspected in patients who have microangiopathic hemolytic anemia, characterized by schistocytes on the peripheral blood smear and increased serum lactate dehydrogenase levels, and thrombocytopenia. A peripheral blood smear is essential to determine whether the anemia is caused by a microangiopathic hemolytic process as indicated by the presence of schistocytes. Patients may also have fever; kidney manifestations such as hematuria, elevated creatinine level, and proteinuria; and fluctuating neurologic manifestations, but the absence of these symptoms does not exclude the diagnosis.

#12 – Non-Cirrhotic Liver Disease and Nodules

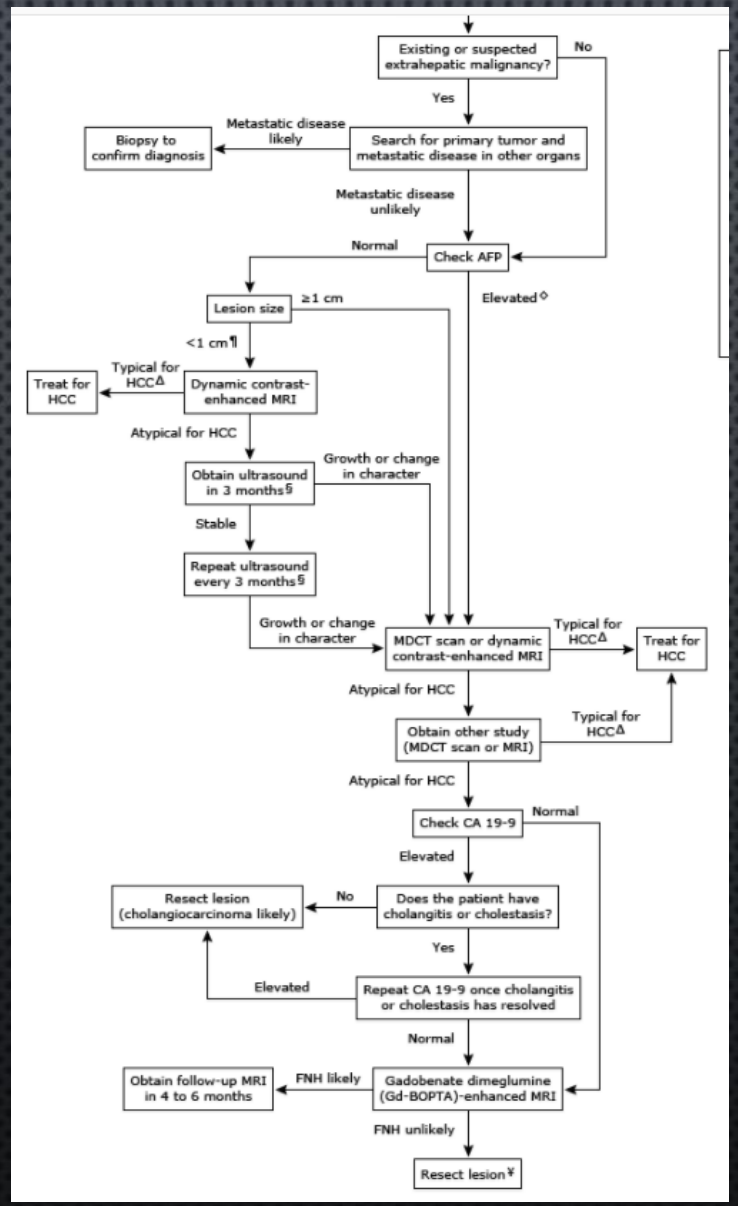
- A 42-year-old woman is evaluated after an incidental liver lesion was found during a recent CT urogram, which was performed for evaluation of kidney stones. Follow-up CT of the lesion demonstrates a well-circumscribed 6-cm lesion with peripheral enhancement on the early arterial phase, centripetal flow on the portal phase, and isodensity on the late phase. Biopsy of the lesion confirms a hepatocellular adenoma, and b-catenin activation mutation is positive. Her only medication is an estrogen and progesterone oral contraceptive.
- On physical examination, vital signs are normal; BMI is 28. Abdominal examination findings are normal.
- Which of the following is the most appropriate management?

#12 ANSWER: B – RESECTION

HEPATIC ADENOMA MANAGEMENT

- STRONGLY ASSOCIATED WITH OCPS, ANABOLIC ANDROGENS, AND GLYCOGEN STORAGE DISEASE
- MODERATE ASSOCIATION WITH PREGNANCY AND DIABETES MELLITUS

- HEPATOCELLULAR ADENOMAS THAT ARE LARGER THAN 5 CM OR THAT ARE SYMPTOMATIC SHOULD BE RESECTED
- IF BIOPSIED AND SHOWN TO EXHIBIT B-CATENIN NUCLEAR REACTIVITY, LESION SHOULD BE RESECTED
- ASYMPTOMATIC AND <5CM, US Q6MOS



Other DDX:

Mets – often multiple

Cysts – US shows anechoic, smooth, usually thin walls but can septate or even hemorrhage.

Focal nodular hyperplasia (FNH) – abberent growth response to abnormal blood flow. Usually demonstrates enhancement on the arterial phase with a central "scar."

Abscess – usually polymicrobial. Amebiasis cysts if Africa, India, South America!

HCC – 20% in non-cirrhotic pts

How should we be sending paracentesis fluid to the lab for culture?

#20 ANSWER: C – NO BLOOD CULTURE BOTTLES!

#20 – PARACENTESIS FLUID

Update from lab – we've all been doing it wrong!

Fluid needs to go in sterile containers so that it can be gram stained and then cultured. Syringe with a sterile cap works fine.

Our blood culture bottles are not certified for ascitic fluid.

DO send all of the fluid you pull if you're checking cytology.