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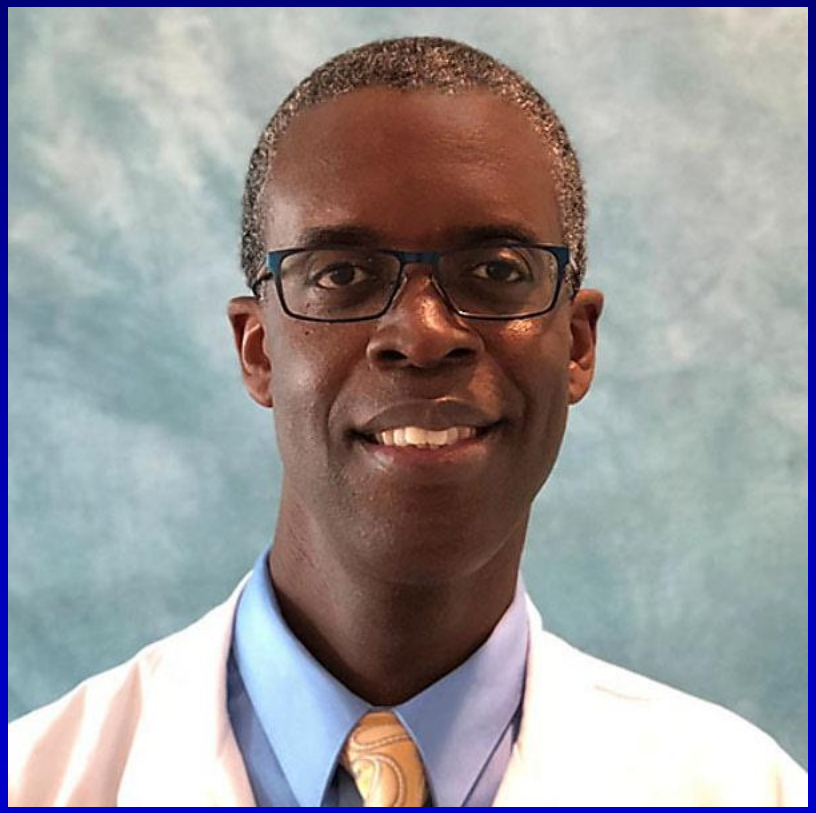

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  - Clinical interest: General gastroenterology

DISCLOSURES

- Muthoka Mutinga, MD- No disclosures

1. A 67-year-old man with Parkinson's disease reports recent difficulty swallowing. Ingesting liquids makes him cough and feel like he is about to choke, whereas solids are much better tolerated. He has not experienced heartburn or regurgitation. What would you order to evaluate his symptoms?

A. Esophagogastroduodenoscopy (EGD)

B. Esophageal manometry test

C. Video swallow study

D. Barium esophagram

1. The answer is C

- Coughing and choking sensation when ingesting liquids is suggestive of oropharyngeal dysphagia. Other suggestive symptoms include difficulty initiating a swallow, changes in phonation and nasal regurgitation of food. A history of unexplained recurrent pneumonia should also raise suspicion
- A video swallow study (also known as a modified barium swallow) is useful in the evaluation and oropharyngeal dysphagia and is performed in conjunction with a radiologist and speech pathologist
- Neurogenic disorders (such as Parkinson's disease), myogenic disorders and oropharyngeal tumors are the most common underlying causes of oropharyngeal dysphagia
- Esophageal dysphagia is characterized by symptoms that suggest impediment of food passage through the esophagus and is best evaluated with a barium swallow x-ray or esophagogastroduodenoscopy procedure.
- Motility disorders of the esophagus such as achalasia are typically associated with a sensation of difficulty swallowing both liquids and solids. A high-resolution manometry study is the test of choice for these disorders.

2. A 61-year-old man is evaluated for recent onset of heartburn symptoms resulting in intermittent disruption of sleep. He has tried over-the-counter antacids as needed with partial relief of symptoms. He reports no dysphagia or odynophagia. He has gained 20 pounds over the past year and his current BMI is 34.

What would you recommend next for the evaluation of this patient?

A. Barium esophagram

B. Esophagogastroduodenoscopy (EGD)

C. Esophageal pH test

D. Esophageal manometry test

2. The answer is B

- The patient's **age**, **recent onset of symptoms**, **gender** and **obesity** put him at increased risk of complications from gastroesophageal reflux disease such as reflux esophagitis and Barrett's esophagus. Therefore, an *EGD* is warranted for initial evaluation.
- A *barium esophagram* would be helpful for initial evaluation of dysphagia for solids, which he does not report
- An *esophageal pH test* would be useful to confirm that a patient has gastroesophageal reflux, if his symptoms fail to resolve with potent acid suppressive therapy
- An *esophageal manometry test* would be useful to evaluate dysphagia if no mechanical or inflammatory cause is found after endoscopic evaluation

3. A 30-year-old man with primary sclerosing cholangitis undergoes a colonoscopy to evaluate loose bloody stools and is confirmed to have mild ulcerative pancolitis. Treatment with oral mesalamine is initiated. At an office follow-up eight weeks later, he is asymptomatic and a fecal calprotectin test is within normal limits. There is no family colorectal cancer or polyps. His medical history is otherwise unremarkable.

When should he have his next colonoscopy exam?

A. 15 years

B. 8 years

C. 5 years

D. 1 year

3. The answer is D

- Primary sclerosing cholangitis (PSC) is associated with a significant increased risk of colorectal cancer in people with inflammatory bowel disease (IBD), hence a yearly colonoscopy exam is recommended regardless of extent or duration of IBD
- Primary sclerosing cholangitis (PSC) is progressive disease of unknown etiology that affects medium to large intra- and extra-hepatic bile ducts, and is more commonly associated with ulcerative colitis than with Crohn's disease
- A colonoscopy should also be performed at diagnosis with PSC to evaluate for inflammatory bowel disease even in the absence of intestinal symptoms.
- For most other people with IBD, a surveillance colonoscopy should be performed 8-10 years after disease onset.

4. A 64-year-old woman with coronary artery disease and prior PTCA with drug eluting stent placement five months ago presents to the emergency department for evaluation of melena and epigastric pain. She takes aspirin 81mg/day and clopidogrel 75mg/day. Intravenous proton pump inhibitor therapy is initiated and the aspirin and clopidogrel are held. After evaluation and resuscitation an urgent upper esophagogastroduodenoscopy (EGD) is performed which reveals a duodenal ulcer with a visible vessel and mild oozing of blood. The bleeding ceases after endoscopic submucosal epinephrine injection and hemostatic clip placement.

How should her dual antiplatelet therapy be managed now?

A. Resume aspirin and clopidogrel now

B. Resume aspirin and clopidogrel in 72 hours

C. Resume clopidogrel now, but hold aspirin for 72 hours

D. Resume aspirin now, but hold clopidogrel for 72 hours

4. The answer is A

- Patents at high risk of cardiovascular complications with interruption of antiplatelet or anticoagulant therapy, such as in the case of treatment of acute gastrointestinal bleeding, should resume antiplatelet and anticoagulants as soon as hemostasis is adequately achieved
- Antiplatelet monotherapy is not appropriate for this patient who had a drug eluting stent placed less than 1 year ago
- Early resumption of antiplatelet and anticoagulants is associated with higher risk of rebleeding, but a lower risk of vascular events and death
- The benefits of early reinstitution of antiplatelet or anticoagulant therapy outweighs the increased risk of bleeding

5. A 41-year-old woman with well controlled type II diabetes mellitus is noted to have hepatic steatosis and normal liver contour on ultrasound imaging obtained to evaluate vague upper abdominal discomfort. She is concerned about metabolic dysfunction-associated steatotic liver disease (MASLD) and potential complications after learning that her older brother was diagnosed with advanced liver disease associated with metabolic dysfunction associated steatohepatitis (MASH). She has a BMI of 24, consumes no more than 2-3 alcoholic beverages per week and exercises regularly. Laboratory tests including fasting blood glucose, lipid profile and liver biochemical tests are normal. Her hemoglobin A1C (HBAIC) is 5.8.

Which of the following poses the greatest risk for MASLD/MASH-related advanced hepatic fibrosis for this patient ?

A. Age >40

B. Type II diabetes mellitus

C. Family history of MASLD/MASH

D. Female gender

5. The answer is B

- Patients with type II diabetes mellitus and MASLD have a high prevalence of significant fibrosis with some studies reporting up to 20% prevalence

- Patients with two or more metabolic risk factors have increased risk of MASLD/MASH-associated advanced hepatic fibrosis. These metabolic risk factors include:
  - Central obesity
  - Triglycerides ≥150mg/dL
  - HDL <40mg/dL in men or HDL <50mg/dL in women
  - Hypertension defined by SBP ≥130mm Hg or DBP ≥85mm Hg
  - Fasting glucose >100mg/dL

- Patients with one or no risk factors have low risk of progression to cirrhosis or hepatocellular cancer

- Patients with incidental steatosis on any imaging modality especially if accompanied by aminotransferase elevation are also at increased risk of MASLD/MASH-associated advanced hepatic fibrosis with some studies suggestion that as many as 11% of these patients may have advanced fibrosis

- Age, gender and family history are not known to be associated with increased risk of advanced hepatic fibrosis in patients with MASLD/MASH

6. A 23-year-old man is seen in Urgent Care for acute onset of nausea, vomiting and diarrhea. He reports no sick contacts and has not experienced abdominal pain. Symptoms began several hours after eating food from a street vendor. He felt much better after receiving intravenous fluids and an antiemetic. Labs were notable for an elevated total bilirubin level of 1.7mg/dL. The direct bilirubin level was 0.3mg/dL, and other liver biochemical tests, albumin, haptoglobin, LDH, INR, platelet count, and hematocrit were within normal limits. He rarely consumes alcohol and does not take supplements.

What is the likely cause of his elevated total bilirubin level?

A. Advanced chronic liver disease
B. Gilbert's syndrome
C. Hemolysis
D. Choledocholithiasis

6. The answer is B.

- The most common cause of indirect hyperbilirubinemia is Gilbert's syndrome; a common condition found in 3-7% of the US population
- It is caused by a defect in UDP-glucuronyl transferase, resulting in decreased hepatic conjugation of bilirubin.
- The total bilirubin level is typically less than 3mg/dL and tends to rise in the setting of illness or fasting
- He has normal hepatic synthetic function as evidence by normal albumin and INR, making advanced chronic liver disease unlikely
- Hemolysis can result in indirect hyperbilirubinemia but the normal LDH, haptoglobin and hematocrit argue against this diagnosis
- Biliary obstruction due to choledocholithiasis can result in elevation of total and direct bilirubin and is typically associated with symptoms of abdominal pain as well as elevation of other liver biochemical tests such as ALT, AST and ALK.

7. A 34-year-old man with a long history of alcoholism is brought to the emergency department by a concerned family member who noticed that he was jaundiced and had decreased appetite for two days. He doesn't take any prescribed or supplemental medication. After extensive evaluation during the hospitalization, alcoholic hepatitis is suspected to the be cause of the liver biochemical abnormalities.

Which of the following statements regarding acute alcoholic hepatitis is true?

A. Corticosteroids improve long term survival in patients with severe alcoholic hepatitis

B. Alcohol rehabilitation following hospitalization decreases long term mortality

C. Alcoholic hepatitis is associated with a low in-hospital mortality

D. Alcoholic hepatitis is associated with a low risk of alcohol relapse

7. The answer is B

- Alcohol rehabilitation after hospitalization for acute alcoholic hepatitis has been shown to not only decrease 30-day alcohol relapse, but also reduces 30-day readmission and improves long-term survival
- Corticosteroids decrease short term mortality in patients with a discriminant function $\geq$32, but have no impact on long term mortality
- In hospital mortality associated with alcoholic hepatitis may be as high as 46% in the US
- Alcohol relapse rates in patients previously hospitalized with alcoholic hepatitis has been reported to be as high as 25% at 1-year follow-up and 60% at 5-year follow-up

8. A 67-year-old homeless man is brought to the emergency department for evaluation of confusion. He was found wandering around on a hot summer night and was disoriented. He is not able to provide a reliable history and is cachectic appearing. No focal neurologic findings are noted on exam; a head CT and lumbar puncture are unrevealing and serum and urine toxic screens are negative. His skin exam is notable for hyperpigmentation and scaling eruptions on a red base on sun exposed surfaces of his arms. He has frequent watery diarrhea during the hospitalization and stool testing does not reveal an infectious cause. Labs are notable for low albumin, mild elevation of the white blood count but are otherwise normal. A nutrient deficiency is suspected.

What is his most likely diagnosis?

A. Scurvy

B. Beriberi

C. Pellagra

D. Rickets

8. The answer is C

- Conditions that lead to malnutrition, such as homelessness in this case, may lead to various nutrient deficiencies
- Pellagra is characterized by the **4 D's- d**ermatitis, **d**iarrhea, **d**ementia ultimately leading to **d**eath and is caused by niacin (vitamin B3) deficiency
- Fortification of flour with niacin has practically led to its eradication in developed countries
- Scurvy is caused by vitamin C deficiency, often in association with alcoholism and poor nutrition. Symptoms include fatigue, malaise and lethargy. Petechia, perifollicular hemorrhage, gum disease, corkscrew hair and other findings may be seen
- Beriberi is caused by thiamine (vitamin B1) deficiency and commonly occurs in the setting of malnutrition. Symptoms may include, muscle weakness or pain, confusion, numbness or tingling in hands and feet, difficulty walking or unsteady gait, difficulty breathing and palpitations
- Rickets is caused by vitamin D or calcium deficiency *in children* resulting in muscle cramps, bone pain, stunted growth, teeth and skeletal deformities

9. A 35-year-old woman is evaluated for fatigue. She has not experienced menorrhagia, insomnia, or excessive daytime somnolence and her body mass index (BMI) is normal. She does not consume alcohol. A depression screening questionnaire is negative. Her physical exam is normal. Lab test results are as follows:

- TSH: 1.50 mU/L (normal: 0.4-4.0 mU/L)
- Hct 42% (normal: 36-46%)
- ALT, AST, ALK, total bilirubin- all normal
- Serum iron: 180 μg/dL (normal: 60-170μg/dL)
- Total iron binding capacity: 230 μg/dL (normal: 240-450 μg/dL)
- Serum ferritin: 195 ng/mL (normal: 25-240 ng/mL)
- Transferrin saturation: 78%

What test would you order next establish her diagnosis?

A. Percutaneous liver biopsy

B. Sleep study

C. Glycosylated hemoglobin (HbA1c)

D. HFE gene test

E. Echocardiogram

9. The answer is D.

- The HFE gene test to evaluate for the two most common mutations associated with hereditary hemochromatosis (C282Y & H63D) should be ordered next
- A transferrin saturation >55% is suggestive of an iron overload syndrome.
- The ferritin level is usually elevated in patient with hemochromatosis, except in menstruating women
- Although diabetes can occur due to damage of pancreatic β (islet) cells by excess iron, it is a late manifestation, an unlikely to occur in someone without evidence of even hepatic injury
- Atrial arrythmias may occur early in the disease course, whereas dilated cardiomyopathy is a later cardiac manifestation

10. A 42-year-old man who underwent a Roux-Y gastric bypass 4 years ago for morbid obesity is referred for evaluation of symptoms of excessive intestinal gas, bloating and loose stools. The symptoms have been ongoing for several months. He doesn't consume dairy products, carbonated beverages or artificial sweeteners. He hasn't taken any antibiotics recently and is not taking any new medications. He has no history of pancreatic disease, and his weight has been stable. Labs for celiac disease as well as CBC with differential, albumin, TSH, CRP, fecal calprotectin and stool tests for C. difficile, bacterial pathogens and parasites are all normal.

What would you recommend next to establish his diagnosis?

A. Colonoscopy with biopsies
B. Magnetic resonance enterography (MRE)
C. Fecal elastase test
D. Breath test to evaluate for small intestinal bacterial overgrowth
E. Gastric emptying test

10. The answer is D

- Small intestinal bacterial overgrowth (SIBO) commonly develops in people who have undergone a Roux-Y gastric bypass operation and can be diagnosed with a breath test.
- The normal fecal calprotectin and CRP make inflammatory disorders of the small and large intestine less likely, hence a MR enterography and colonoscopy are likely to be of low diagnostic yield
- Similarly, the absence of weight loss and absence of prior history of pancreatic disease make exocrine pancreatic insufficiency unlikely, hence a fecal elastase would be of low diagnostic yield.
- His symptoms are not typical of gastroparesis and the Roux-Y gastric bypass enhances gastric emptying

11. A 24-year-old woman whose medical history is only notable for moderate to severe acne, presents for evaluation of worsening and persistent moderate to severe retrosternal pain for the past two days. She has had no similar symptoms in the past and does not use illicit drugs. She has no personal or family history of cardiovascular disease.

What is her likely diagnosis?

A. Dissecting aortic aneurysm

B. Esophageal spasms

C. Pill esophagitis

D. Reflux esophagitis

11. The answer is C

- Persistent retrosternal pain in a patient who may be taking doxycycline for moderate to severe acne is highly suggestive of *pill induced esophagitis*
- Other symptoms associated with pill esophagitis include heartburn, odynophagia, dysphagia
- A discrete esophageal ulcer with normal surrounding mucosa is typically seen endoscopically

12. A 62-year-old man with recently diagnosed compensated cirrhosis due to metabolic dysfunction-associated steatohepatitis (MASH) is advised to discontinue statin therapy by his primary care provider due to concerns about possible hepatoxicity. He is obese, has hypertension and dyslipidemia, but does not have diabetes mellitus or coronary heart disease.

Which of the following is believed to be true concerning the effects of statin therapy in patient with chronic liver disease?

A. Statins may decrease overall survival

B. Statins may increase the risk of hepatic decompensation

C. Statins may decrease the risk of developing hepatocellular carcinoma

D. Statins may retard the progression and/or development of cirrhosis

12. The answer is D

- Recent data shows no evidence that statins are deleterious in patients with chronic liver disease including compensated cirrhosis
- In fact, statins appear to retard the progression and/or development of cirrhosis, likely by inhibiting profibrotic cytokines
- Statins appear to *improve* overall survival in patients with chronic liver disease and *decrease* the risk of hepatic decompensation
- Statins are not known to have any direct effect on the development of hepatocellular carcinoma

13. A 24-year-old African woman with chronic hepatitis B is concerned about her long-term risk of developing hepatocellular cancer. She does not smoke or consume alcohol. Her mother and several siblings have chronic hepatitis B. There is no family history of hepatocellular cancer. An abdominal ultrasound reveals normal liver contour and no suspicious lesions, and the AFP level is normal. A fibroscan suggests no fibrosis.

Which of the following is most strongly associated with an increased risk of hepatocellular cancer in patients with chronic hepatitis B?

A. Tobacco use

B. Family history of hepatocellular cancer

C. Female gender

D. Elevated viral load with normal ALT

13. The answer is B.

- A family history of hepatocellular cancer (HCC) is associated with a marked increase in risk of HCC in first degree relatives with chronic hepatitis B (hazard ratio 32).
- Tobacco use may increase the risk of HCC in patients with chronic hepatitis B, especially if also associated with heavy alcohol use, but not nearly to the degree seen with a family history of HCC
- Male gender and African or Asian descent are also associated with increased risk of HCC in patients with chronic hepatitis B
- The immune tolerant phase of chronic hepatitis B, characterized by high levels of viremia and normal transaminases which generally occurs at a young age is not associated with increased risk of HCC

14. A 38-year-old woman is seen in your office for a comprehensive physical examination. She has been hearing about early onset colon cancer from some friends in the medical field. She has no family history of colon cancer and no lower gastrointestinal symptoms.

Which of the following statements regarding early onset colorectal cancer is true?

A. Most cases are associated with hereditary causes
B. Cancer tends to be in the distal colon and rectum
C. Obesity is not a likely risk factor
D. It is largely explained by increased colorectal cancer screening

14. The answer is B.

- Early onset (before age 50) colorectal cancer tends to occur in the distal colon and rectum
- In the US, it is estimated that approximately 35% of early colorectal cancers (CRC) are attributable to known hereditary CRC syndromes- thus most are sporadic
- The increased use of colonoscopy does not fully explain the increased incidence of early onset CRC. In fact, increased incidence has also been observed in countries where screening for CRC is much lower
- Some potential risk factors for early onset CRC include first degree relative with CRC (RR 4.21), obesity (RR 1.54) and alcohol consumption (RR 1.71). Aspirin use is associated with a decreased risk
- As a result of the rising incidence of early onset CRC, initiation of CRC screening for average risk persons has been recommended to begin at age 45 instead of age 50.

15. A 50-year-old man whose mother died from pancreatic cancer at age 63 requests to be screened for pancreatic cancer with MRI imaging. He is concerned about the impact of family history on his risk of developing pancreatic cancer. He does not smoke or consume alcohol. There is no other history of malignancies in his family.

Which of the following inherited cancer syndromes is associated with the highest lifetime risk of developing pancreatic cancer?

A. Lynch syndrome

B. Li-Fraumeni syndrome

C. Familial atypical multiple mole/melanoma (FAMMM) syndrome

D. Peutz-Jeghers syndrome

15. The answer is D.

- The inherited cancer syndrome associated with the highest lifetime risk of developing pancreatic cancer is Peutz-Jeghers syndrome (relative risk132)
- Features of this syndrome include mucocutaneous hyperpigmentation especially around the mouth, nostrils and eyes and hamartomatous polyps in the gastrointestinal tract
- Lynch syndrome, characterized by a germline mutation of mismatch repair genes is associated with a high risk of developing colon cancer, although affected individuals may be at risk of developing multiple extracolonic malignancies including pancreatic cancer (RR 8.6-11).
- Li-Fraumeni syndrome, characterized by germline TP53 gene mutations is also associated with an increased lifetime risk of pancreatic cancer (RR 7.3) as well as other malignancies
- Lastly, the FAMMM syndrome is also associated with a high lifetime risk of developing pancreatic cancer (RR 13-39)

16. A 28-year-old man is found to have occult blood in the stool on routine digital rectal exam during a physical exam. He has no upper or lower gastrointestinal symptoms and does not take aspirin or NSAIDs. An abdominal CT scan obtained several years ago when he was diagnosed with appendicitis was also notable for a large hiatal hernia and colonic diverticulosis. There is no family history of gastrointestinal malignancy, and his hematocrit is normal.

Which of the following could potentially cause occult gastrointestinal blood loss?

A. Meckel's diverticulum

B. Barrett's esophagus

C. Colonic diverticulosis

D. Cameron lesions

16. The answer is D.

- Cameron lesions are erosions or ulcers that develop on the lower margin (gastric side) of a large hiatal hernia sac and may be associated with *acute and chronic blood loss* as well as iron deficiency anemia
- A Meckel's diverticulum is a congenital vestigial remnant of the omphalomesenteric duct, located in the ileum, usually within 2 feet of the ileocecal valve. Most are asymptomatic, but they can occasionally cause *overt bleeding*, rather than occult blood loss
- Colonic diverticulosis are a common cause of *overt lower gastrointestinal hemorrhage*, but are *not* associated with occult blood loss
- Barrett's esophagus, characterized by intestinal metaplasia of the esophagus, is a *non-inflammatory lesion* and is not associated with occult blood loss

17. A 42-year-old woman with hypertension, type II diabetes mellitus, dyslipidemia and obesity is noted to have multiple small gallstones and hepatic steatosis on ultrasound imaging performed to evaluate mild transaminase elevation. She reports no history of episodic, severe upper abdominal pain. She is very anxious about the possibility of developing symptoms or complications from the gallstones especially since she has diabetes mellitus. Laboratory tests to rule out other causes of transaminase elevation are normal.

What would you recommend for management of gallstones in this patient?

A. Elective cholecystectomy

B. Ursodeoxycholic acid

C. Lithotripsy

D. No intervention

17. The answer is D

- The risk of gallstone related complications in a person with asymptomatic cholelithiasis is approximately 20% over 15 years of follow-up
- The risk of cholecystectomy outweighs the benefits, even in diabetic patients
- Hence no intervention should be pursued

18. A 29-year-old woman is incidentally noted to have a 4mm polyp in her gallbladder while undergoing ultrasound imaging to confirm a hepatic cyst previously noted several years ago when she was living in another state. A small, benign appearing hepatic cyst is confirmed. No gallstones are seen, and she has not experienced symptoms suggestive of biliary colic. Her medical history is otherwise unremarkable.

What would you recommend for management of the gallbladder polyp?

A. Refer for elective cholecystectomy

B. Repeat ultrasound in 6 months

C. Repeat ultrasound in 1 year

D. No need for repeat imaging

18. The answer is C

- Most gallbladder polyps are benign and with exception of adenomas, have no malignant potential
- A *one-year* follow ultrasound is recommended for asymptomatic gallbladder polyps that are ≤5mm
- A *6-month* follow-up ultrasound is recommended for asymptomatic gallbladder polyps that are 6-9mm. If repeat imaging in 6 months shows stable polyp size, the surveillance interval can be increased to 1 year
- *Referral for surgery* is recommended for gallbladder polyps ≥10mm, which should be regarded as possibly malignant

19. A 23-year-old returning from travel outside of the United States is seen in urgent care with complaints of unilateral knee pain and swelling. She reports no trauma and is not sexually active. She had a self-limited diarrheal illness during her trip. She is well appearing, and lab tests including a urinary test for gonorrhea and chlamydia are unremarkable.

Which one of the statements regarding reactive arthritis following an enteric infection is true?

A. Intestinal infection with ameba has been associated with this syndrome

B. Many affected people are HLA-DQ2 and -DQ8 antigen-positive

C. There is a high female to male ratio

D. It may be associated with a triad of arthritis, conjunctivitis and urethritis

19. The answer is D

- Post-enteric reactive arthritis, formerly known as *Reiter's syndrome*, usually develops 2-4 weeks after an acute diarrheal illness
- It is more common in men than women and many affected patients are HLA-B27 antigen positive
- It may be associated with a triad of arthritis, conjunctivitis and urethritis
- *Shigella sp.* is the most associated enteric organism, although *Salmonella sp*, *Campylobacter jejuni*, *Yersinia enterocolitica* and even *Clostridiodes difficile* have been implicated.
- Amebic intestinal infections are not typically associated with reactive arthritis

20. A 82-year-old man with hypertension, type II diabetes mellitus, and dyslipidemia presents to the emergency department for evaluation of acute, severe right lower quadrant pain. Symptoms have been ongoing for two hours without relief. He reports no fever, chills, recent diarrhea, constipation, melena or hematochezia. In the emergency department he is uncomfortable appearing, afebrile normotensive and not tachycardic. His abdominal exam is notable for mild distention, hypoactive bowel sounds, moderate right lower quadrant tenderness without guarding or rebound. Labs are only notable for mild leukocytosis and mild lactate elevation which normalizes with hydration. Abdominal/pelvic CT scan imaging is notable for thickening ascending colon and cecum, a normal appendix and atherosclerosis of abdominal vasculature.

What would you recommend next for evaluation of this patient?

A. Stool cultures and C. difficile testing

B. Bowel preparation for diagnostic colonoscopy

C. CT angiography

D. Bowel rest and empiric antibiotics

20. The answer is C.

- Isolated right-sided colitis warrants evaluation for acute mesenteric ischemia
- CT angiography or conventional angiography is the diagnostic test of choice to diagnose this condition
- Stenting or revascularization of the affected vessel along with anticoagulation is used to treat acute mesenteric ischemia
- Colonoscopy is recommended for diagnosis of ischemic colitis which results from low blood flow to susceptible areas of the colon (distal transverse colon to the descending colon)
- Exploratory laparotomy may be required inf bowel necrosis is suspected

21. A 39-year-old woman presents with acute severe epigastric pain radiating to her back and ongoing for a couple of hours. Her medical history is unremarkable, and she reports several family members have had gallstones. In retrospect she has had some symptoms suggestive of biliary colic over the past year. She is afebrile, normotensive and is not tachycardic or tachypneic. She has moderate epigastric tenderness and hypoactive bowel sounds. Ultrasound imaging is notable for multiple small gallstones, no gallbladder wall thickening, common bile duct and intrahepatic bile ducts are within normal limits. Labs are notable for lipase 5400 U/L, ALT 361 U/L, AST 285 U/L, ALK 210 U/L but normal bilirubin. Her hematocrit, BUN and serum creatinine are normal. She receives IV fluid resuscitation, intravenous analgesics and by the next day reports marked reduction in pain. Repeat liver biochemical tests normalize within 3 days.

Which statement is true regarding management of acute pancreatitis?

A. Normal saline is preferred over lactated Ringer's solution for fluid resuscitation

B. Moderate fluid resuscitation is preferred over aggressive fluid resuscitation to reduce complications of acute pancreatitis

C. ERCP is required for management for most people with gallstone pancreatitis

D. Ultrasound imaging is not recommended for most patients

21. The answer is B

- Moderate fluid resuscitation (10cc/kg bolus only if hypovolemic and 1.5cc/kg/hr drip) compared to aggressive fluid resuscitation (20cc/kg bolus followed by 3cc/kg/hr drip) is associated with a *lower risk* of volume overload *without increased risk* of moderate to severe pancreatitis
- Fluid resuscitation with *lactated Ringer's solution* can reduce the incidence of systemic inflammatory response syndrome (SIRS) compared with normal saline, hence the former is preferred
- ERCP in gallstone pancreatitis is generally only recommended in the setting of cholangitis or persistent high grade biliary obstruction
- Gallstones, including microlithiasis, are the most common cause of acute pancreatitis. Ultrasound imaging is the preferred modality for detection

DISCLOSURES

- Muthoka Mutinga, MD – No disclosures

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