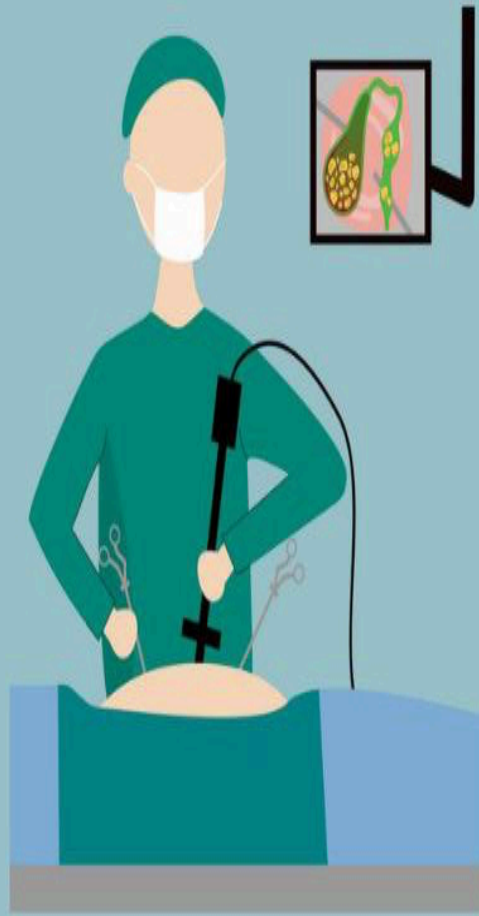


# Edited past paper 'Part 2'



By Malak khaled  
Hala Qulajo



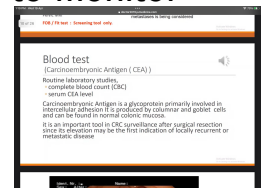
**Collected test bank by  
doctor 018**

**Modified by Dr Ahmad Alhaj  
Checked by Lejan 021**

1. 70-year-old male patient complaining of rectal bleeding and change in bowel habit, on exam he was found to have a rectal lesion that is suspicious of malignancy, One of the following is CORRECT:

Not for screening

- A. Carcinoembryonic antigen (CEA) level is ordered as a baseline value to monitor treatment.
- B. Surgery is usually the first step in the treatment for this patient
- C. MRI of pelvic is not essential part of investigation
- D. Colonoscopy can detect synchronous tumor in 20 % of patients
- E. Bone scan is a routine staging test for this patient



Answer: A

2. All the followings are complications of diverticular disease of the colon EXCEPT:\*\*

- A. Carcinoma
- B. Stricture
- C. Lower gastrointestinal bleeding
- D. Paracolic abscess
- E. Fistulae

Diverticular disease ( Diverticulosis) can cause:

Diverticulitis  
Peritonitis  
Abscess  
Intestinal obstruction  
Haemorrhage  
Fistula formation (ex. colovesical fistula)

Answer: A

3. All the following are associated with increased incidence of gallbladder carcinoma EXCEPT:

- A. primary sclerosing cholangitis
- B. multiple small gallstones
- C. choledochal cyst.
- D. gallbladder polyps more than one cm
- E. porcelain gall bladder

تم تعديل السؤال  
والاجابة مت 018

Answer: B

4. One of the following is the most important prognostic factor of carcinoid tumor of the appendix:

- A. Age of the patient
- B. Lymphatic involvement
- C. Size of the tumor
- D. Location of the tumor
- E. Mesoappendix involvement

2- Malignant tumors:  
Always produce symptoms, the most common presentation is weight loss and pain, other presentations are obstruction, bleeding, adhesions and diarrhea.  
a) Carcinoid tumor  
It originates from the enterochromaffin cells.  
It may present in the large, middle and the hindgut.  
It is the most common cancer of the appendix and it is found accidentally (chorioepithelioma) and in the terminal ileum.  
The most common site of the Carcinoid is the terminal ileum.  
Carcinoid increases the risk of developing adenocarcinoma of the colon by 10-20% causing obstruction, fibrosis, and ischemia.  
It is a slow growing, yellow tumor that can metastasize to the nearby LN which they are around vessels, fibrosis may occur then so it will cause ischemia in a segment of the small bowel, and that is what we found during surgery: a yellow tumor and an ischemic segment of the small bowel.  
So, the Carcinoid may metastasize to nearby lymph nodes and to the liver, where it will cause ulceration, obstruction and jaundice.

Size → محدودة → Metas → محدودة → prognosis

Answer: C

5. A 70-year-old male patient is referred to the surgical clinic with Esophagogastroduodenoscopy (EGD) that reveals a 3 cm ulcerated lesion 4 cm distal to the gastroesophageal junction, the final pathology reports a poorly differentiated adenocarcinoma, and the EUS suggests a T3N0 lesion. The most appropriate next step would be:

Stage 2/3

Staging	Treatment	5-year survival
1. T1a (mucosa)	1. Endoscopic mucosal resection	1. 92%
2. T1b (submucosa)	2. Endoscopic mucosal resection	2. 87%
3. T2 (muscularis)	3. Radical gastrectomy	3. 37%
4. T3 (serosa)	4. Radical gastrectomy	4. 23%
5. T4 (adjacent organs)	5. Radical gastrectomy	5. 5%

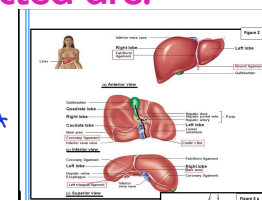
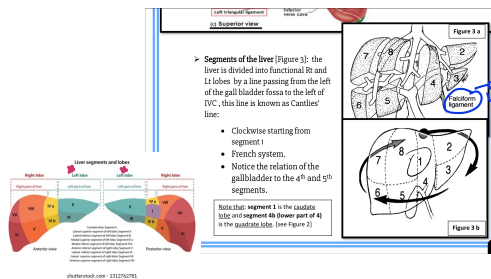
Answer: A

- A. Neoadjuvant therapy
- B. Total gastrectomy
- C. Total gastrectomy with splenectomy and distal pancreatectomy
- D. d. Radiotherapy
- E. Proximal gastrectomy with negative margins (RO) only

Staging of colon cancer (TNM)  
 Stage I: T1 (mucosa) or T2 (muscularis) / No / Mo  
 Stage II: T3 (to the tissue) or T4 (visceral peritoneum) / No / Mo  
 Stage III: T1-4 (any) / N1 / Mo  
 Stage IV: any T / any N / M1

6. Surgeon resects a portion of the liver to the left of the attachment of the falciform ligament. The segments that have been resected are:

- A. segment two and three
- B. segment one and 4b
- C. seg 4a and 4b
- D. segment one and three
- E. segment one and four



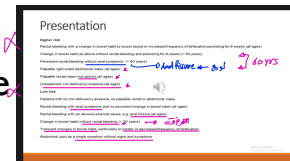
الأنبوب يسار الحزب  
 صلب يسار

2+3 → left

Answer: A

7. One of the following patients require urgent investigation to malignancy

- A. A 58-year-old with anemia and low MCV \* (unexplained anemia is high risk)
- B. A 45-year-old male with constipation of 2 weeks duration (low risk symptom)
- C. A 60-year-old Patient with anal pain and fresh rectal bleeding (it should be bleeding without anal symptoms to consider as high risk)
- D. A 24-year-old female patient with right iliac fossa pain
- E. A 65-year-old female with full thickness rectal prolapse



Answer: A

8. The most common microorganism causing liver abscess is:

- A. Klebsiella
- B. Staphylococcus
- C. proteus
- D. Pseudomonas
- E. E-coli

Most common site is Right Lobe

Klebsiella ← 18

E. coli ← 18

Answer: A

9. All the followings are complications of diverticular disease of the colon EXCEPT:

- A. Carcinoma
- B. Stricture
- C. Lower gastrointestinal bleeding
- D. Paracolic abscess
- E. Fistulae

كر سوال  
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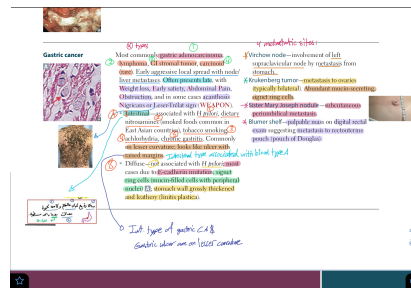
Answer: A

⊗ Osmotic → 2x Magnesium, Polyeth  
Lactulose

- ③ Sodium ②  
TiCo sulfate

[illegible]

- 1. **Diffuse type:** (30%)
  - Arise from lamina propria (no glands).
  - More common in proximal parts of the stomach (Especially the **Cardia**), but could be found anywhere in the stomach.
  - Associated with **invasive growth patterns with rapid submucosal spread** → If the entire stomach is involved, this results in thickening of the stomach "leathier plaques".
  - Less association with the known risk factors.
  - Occurs in **younger age groups**.
  - Worse prognosis than **intestinal type**.
  - Metastases are more common in this type, especially by lymphatics.
- 2. **Intestinal type:** (70%)
  - Arise from **gastric mucosa**.
  - In distal parts of the stomach.
  - Associated with **H. Pylori** & other environmental risk factors.
  - Well formed glandular structure.
  - Slower b/c invasion and localise.



Differential diagnosis of abdominal pain			
Common causes of abdominal pain based on location			
Abdominal pain	Pain origin	Cause	Look out
Upper abdomen	• Esophagus and stomach	• Perforated duodenum	• Esophageal varices
	• Gallbladder and pancreas	• Gallstone cholecystitis	• Acute pancreatitis
	• Stomach and duodenum	• Peptic ulcer disease	• Gastric cancer
Right abdomen	• Gallbladder and pancreas	• Gallstone cholecystitis	• Gallstone pancreatitis
	• Cecum and ascending colon	• Appendicitis	• Cecal cancer
	• Duodenum and jejunum	• Duodenal ulcer	• Duodenal cancer
Left abdomen	• Spleen and pancreas	• Splenic infarction	• Splenic rupture
	• Descending colon	• Diverticulitis	• Diverticular bleeding
	• Duodenum and jejunum	• Duodenal ulcer	• Duodenal cancer
Lower abdomen	• Cecum and ascending colon	• Diverticulitis	• Diverticular bleeding
	• Sigmoid and rectum	• Diverticulitis	• Diverticular bleeding
	• Uterus and ovaries	• Pelvic inflammatory disease	• Ectopic pregnancy
Causes of diffuse or generalized abdominal pain			
• Peritonitis			
• Intestinal obstruction			
• Intestinal ischemia			
• Systemic disease			
• Toxic ingestion			

X
Penetrating trauma

☆
🔍

Summary
General information
Penetrating abdominal trauma

### Etiology

- Most common **gunshot wounds** (44% of all penetrating abdominal trauma)
- Stab wounds**

### Clinical features

- Visible entry wounds** ☐
  - Sites of injury
  - Gunshot wounds: most commonly right lower, colon, and liver
  - Stab wounds: most commonly liver, small bowel, and gallbladder

The image is a composite of four medical illustration boxes:

- CATEGORIES:** Shows four types of wounds: Contusion (bruise), Abrasion (scrape), Laceration (cut), and Fracture (broken bone).
- ASSOCIATED CONDITIONS:** Shows a wound on a limb leading to 'BLOOD LOSS / SHOCK', a wound on the chest leading to 'PNEUMOTHORAX', a wound on the head leading to 'HAEMATOMA', and a wound on the abdomen leading to 'HEPATOMA'.
- DIAGNOSIS:** Shows four methods: 'VISUAL EXAM & PHYSICAL TESTS' (with a diagram of a person), 'X-RAY' (with an image of an X-ray film), 'ULTRASOUND' (with an image of an ultrasound probe), and 'MRI & CT SCANNING' (with an image of a CT scan).
- COMMONLY INJURED ORGANS:** Shows diagrams of the brain, heart, lungs, liver, and spleen, each with a label indicating it is a commonly injured organ.

\* we Don't rely on Amylase & Lipase & ALT

### 1. At Presentation

**Mnemonic = "A Good LAW for Severity"**

All > (Greater than)	Non Gallstone	Add + for better memorising	Gallstone
Age	55 ( Think Elderly )	15	70
Glucose	200	20	220
LDH	350 (add 150 in above )	50	400
AST	250 (Add 50 in above = glucose )	0	250
WBC	16000 ( think inflammation )	2000	18000

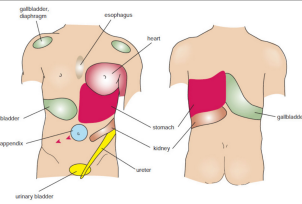
**Table 32-4**  
**Ranson's Prognostic Signs of Pancreatitis**

Criteria for acute pancreatitis not due to gallstones	
<i>At admission</i>	<i>During the initial 48 h</i>
Age > 55 y	Hematocrit fall > 10 points
WBC > 16,000/mm <sup>3</sup>	BUN elevation > 5 mg/dL
Blood glucose > 200 mg/dL	Serum calcium < 8 mg/dL
Serum LDH > 350 IU/L	Arterial Po <sub>2</sub> < 60 mm Hg
Serum AST > 250 IU/L	Base deficit > 4 mEq/L
	Estimated fluid sequestration > 6 L

Criteria for acute gallstone pancreatitis	
<i>At admission</i>	<i>During the initial 48 h</i>
Age > 70 y	Hematocrit fall > 10 points
WBC > 18,000/mm <sup>3</sup>	BUN elevation > 2 mg/dL
Blood glucose > 220 mg/dL	Serum calcium < 8 mg/dL
Serum LDH > 400 IU/L	Bleed deficit > 5 mEq/L
Serum AST > 250 U/L	Estimated fluid sequestration > 4 L

SOURCE: Reproduced with permission from Ranson JHC: Etiological and prognostic factors in human acute pancreatitis: A review. *Am J Surg* 140:1313-1320, 1975.

Answer: C



15. A 67 y/o female presents with sharp burning upper quadrant pain that radiated to her back, the patient has nausea, but no vomiting, she has chills, but no documented fever. On examination, she has normal vital signs with right upper quadrant tenderness, laboratory workup reveals normal liver function, normal electrolytes, serum amylase and normal white blood cell count, what is the best next step in this patient's scenario?

- A. RUQ ultrasound *→ For Liver & Gallbladder*
- B. EGD
- C. Plain abd XRAY
- D. Cholecystikinin stimulated cholescintigraphy
- E. Computed tomography of the abdomen

**Biliary colic:**

- Transient obstruction of GB outlet (cystic duct/CBD) with stone or sludge causing distention.

**Presentation:**

- Biliary colic pain:** RUQ-epigastrium (may radiate to back or right scapular angle (Boas sign)). sharp in onset and constant (not a true colic). Promoted by meals. Also, nausea.
- RUQ-epigastrium tenderness:** NO fever, no signs of peritonitis, no jaundice.
- Normal labs** with possible rise in ALP.

**Imaging:**

- X-ray: 10% of stones are opaque. (*Not useful*)
- RUQ US: 1<sup>st</sup> choice: 95% sensitivity. Echogenic, mobile, shadow, inside GB.

*ERCP ← cholelith. ← Jaundice*

Answer: A

16. Follow up endoscopy was done for a patient with known barret's esophagitis, biopsy was taken and it showed metaplasia with high grade dysplasia, the best next step in management of this patient is:

- A. Esophagectomy
- B. Increase dose of PPI
- C. Increase frequency of follow up endoscopy
- D. Anti reflux surgical procedure (nissen fundoplication)
- E. H pylori eradication therapy

**TREATMENT**

- The only way to cure esophageal CA is surgery.
- Stage 1 and 2 → surgery.
- Stage 3 → neoadjuvant chemotherapy/radiotherapy to shrink the tumor → then surgery.
- Stage 4 for patients in unfit → chemotherapy/palliative surgery.

**SELECTION OF OPERATIVE CANDIDATES**

- A surgical resection was the standard treatment approach for patients with an early esophageal cancer, but its utility as a monotherapy has been challenged.
- Criteria for resection:**
  - Esophagectomy as first line of therapy (T1N0M0).
  - Esophagectomy following neoadjuvant chemotherapy or chemoradiotherapy.
    - Patients with thoracic or esophagogastric junction tumors and full-thickness (T1) involvement of the esophagus with/without nodal disease.
    - Selected patients with T4 disease with resection of focal structures (pericardium, pleura, and/or diaphragm only) that can be resected in bloc, and who are without evidence of metastatic disease to other organs (eg, liver, colon).

Answer: A

17. A 30 y/o male patient with acute colitis presumed to be UC, all of the following represent an indication for urgent surgical treatment, except: \*\*\*

- A. Massive bleeding
- B. Perforation
- C. The presence of PSC
- D. Sepsis related colitis
- E. Toxic megacolon

**Rule of Surgery in Acute Presentation**

- ① Perforation — *انثقاب*
- ② Haemorrhage
- ③ Toxic megacolon (diameter  $\geq 5.5$  cm, or caecum  $\geq 9$  cm).
  - (Systemic toxic)
  - Steroids mask clinical picture
- ④ Failed medical treatment

**Extra Intestinal Manifestations**

- Peripheral arthritis
- Uveitis
- Iritis
- Ankylosing spondylitis
- Sacroiliitis
- Primary sclerosing cholangitis

*Respond to colectomy* (for arthritis, uveitis, iritis). *do not respond to colectomy* (for ankylosing spondylitis, sacroiliitis, PSC).

Answer: C



18. Which of the following is the most common cause of mechanical small bowel obstruction: \*\*

- A. GBS  
 B. Adhesions  
 C. Hernias  
 D. Strictures  
 E. Tumors

الحجاب الحاجز

Etiology of bowel obstruction [3][1][4]		
	SBO	LBO
Most common causes	<ul style="list-style-type: none"> <li>Bowel adhesions: fibrous intraperitoneal strands of connective (scar) tissue between organs and tissues that are not usually physiologically connected               <ul style="list-style-type: none"> <li>Most common cause of SBO</li> <li>Etiology: history of abdominal surgery, abdominal tuberculosis</li> <li>Abdominal x-ray shows dilation of several small bowel loops [4]</li> </ul> </li> <li>Incarcerated hernias: second most common cause of SBO</li> </ul>	<ul style="list-style-type: none"> <li>Malignant tumors (e.g., colorectal carcinoma): most common cause of LBO</li> <li>Diverticulitis [4]</li> <li>Volvulus [4]</li> </ul>

Answer: B

19. A 22 y/o male patient, presented to the ED with right iliac fossa pain for 18 hrs, has reduced appetite, and nausea, no urinary symptoms or diarrhea, on examination, his temperature was 38.5 c and his abdomen was tender, at the RIF, with guarding, the most appropriate next step action after performing the necessary investigation is to: (I'm not sure about the answer here)

Right Iliac fossa

Appendicitis

perforated Appendicitis عذو افراحت

- A. Admit the patient at the surgical ward to start regular IV Abx to cover G+ve and anaerobes  
 B. Refer patient to the urology team for further treatment  
 C. Arrange patient for theatre as a definitive treatment for his illness  
 D. Discharge home and re-evaluate after 6 hrs at the outpatient clinic  
 E. Book him for upper endoscopic examination next morning

نبتت I.V. Abx - Non-complicated (لو)

Non perforated appendicitis	PERFORATED APPENDICITIS
<ul style="list-style-type: none"> <li>For acute nonperforated appendicitis in a stable patient</li> <li>1. Appendectomy within 12 hours</li> <li>2. Antibiotics</li> <li>3. Pain control</li> <li>4. Intravenous antibiotics while awaiting surgery</li> </ul>	<ul style="list-style-type: none"> <li>Unstable patients or patients with free perforation</li> <li>For patients who are septic or unstable, and for those who have a free perforation of the appendix or generalized peritonitis, laparoscopic appendectomy is required, as well as drainage and irrigation of the peritoneal cavity</li> <li>Emergency appendectomy in the setting of free perforation can be performed laparoscopically; the choice is determined by surgeon preference with consideration of patient condition and local resources</li> </ul>

18 اعترى perforated مع الجواب C مع العلم ان الجواب A هو الجواب الصحيح Bec. of localized tenderness

Answer: C

20. Which of the following bariatric procedures is known to reduce appetite and weight by affecting the hunger hormone:

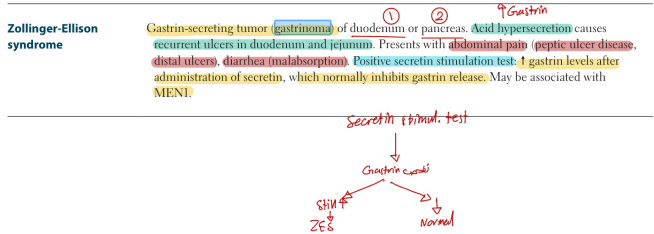
- A. laparoscopic reux – en – y gastric bypass  
 B. laparoscopic sleeve gastrectomy  
 C. biliopancreatic diversion  
 D. laparoscopic adjustable gastric banding  
 E. intragastric balloon

Bariatric surgery	Other potential for weight loss
<ul style="list-style-type: none"> <li>1. Sleeve gastrectomy (SG): 30-40% weight loss, low mortality</li> <li>2. Roux-Y gastric bypass (RYGB): 30-40% weight loss, low mortality</li> <li>3. Biliopancreatic diversion (BPD): 30-40% weight loss, low mortality</li> <li>4. Intragastric balloon (IGB): 10-15% weight loss, low mortality</li> <li>5. Endoscopic sleeve gastroplasty (ESG): 10-15% weight loss, low mortality</li> </ul>	<ul style="list-style-type: none"> <li>1. Ghrelin: A gastric hormone that stimulates appetite and increases gastric acid secretion</li> <li>2. Leptin: A hormone secreted by adipose tissue that inhibits appetite and increases energy expenditure</li> <li>3. Insulin: A hormone secreted by the pancreas that promotes fat storage and inhibits fat breakdown</li> <li>4. Glucagon: A hormone secreted by the pancreas that increases blood sugar levels and inhibits fat storage</li> <li>5. PYY: A hormone secreted by the gut that inhibits appetite and increases satiety</li> </ul>

Answer: B

21. For a patient with PUD one of the following manifestations increase the possibility of gastrinoma:

- A. jaundice  
 B. constipation  
 C. abdominal distention  
 D. flatulence  
 E. diarrhea



Answer: E

22. You were assisting the senior surgeon in appendectomy for twenty years old patient, at the end of the procedure the nurse in charge gave you the specimen, you should: \*\*\*

- A. Refuse the action by the nurse and ask her to keep it
- ☒ B. Carefully label it and send it for histological examination
- C. Send it to the surgical pathology museum
- D. Give it back to the nurse to put it in the medical disposable
- E. Give it to the patient to keep it

Answer: B

23. In the stomach, which of the following substances is released from the D cells:

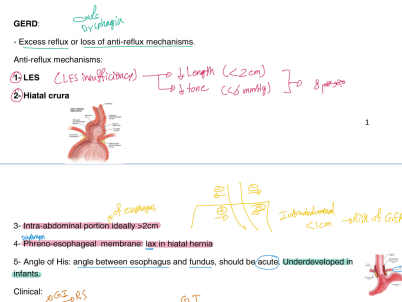
- A. Pepsin – chief
- B. Gastrin – g cells
- C. Histamine – enterchromaffin like cell
- D. Ghrelin – p/d1
- ☒ E. Somatostatin – d cells



Answer: E

24. Which of the following is not a physiologic barrier contributing in prevention of gastroesophageal reflux: \*\*

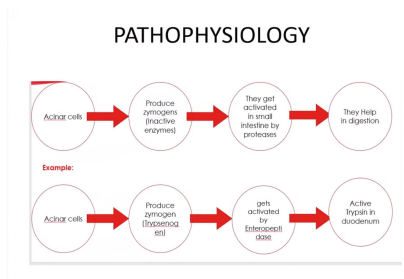
- A. Diaphragmatic crura
- B. Angle of his
- C. Intraabdominal portion of the esophagus
- ☒ D. Delayed gastric emptying
- E. Tonic pressure of the les



Answer: D

25. Which of the following enzymes has been implicated in the etiology of pancreatitis: \*\*\*

- A. Gastrin
- B. Pepsin
- ☒ C. Trypsin
- D. Lipase
- E. Amylase



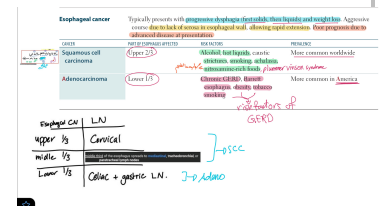
Answer: C

26. Which of the following is not a symptom of esophageal cancer:

- A. Tumor related anorexia
- B. Weight loss
- ☒ C. Early satiety
- D. Aspiration pneumonia
- E. Dysphagia

#### CLINICAL MANIFESTATIONS:

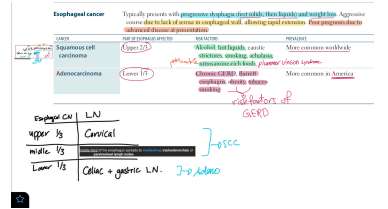
- Early intramucosal cancers are not specifically symptomatic
- Early symptoms of esophageal cancer are subtle and nonspecific: Transient "sticking" of apples, meat, hard-boiled eggs, or bread. Retrosternal discomfort or burning sensation.
- Progressive solid food dysphagia
- Weight loss, dysphagia, changes in diet, tumor-related anorexia.
- Regurgitation of saliva or food, uncontaminated by gastric secretions
- Aspiration pneumonia
- Hoarseness
- Chronic gastrointestinal blood loss.
- Tracheobronchial fistulas: Life expectancy is less than four weeks following the development of this complication.



Answer: C

## 27. All of the following are risk factors for esophageal cancer except:

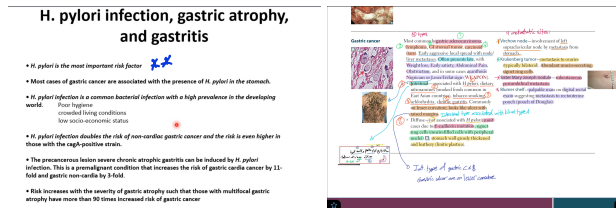
- A. Alcohol consumption
- B. Poor nutritional status
- C. Smoking
- D. Drinking hot beverages
- E. High intake of fruits and vegetables



Answer: E

## 28. The most important risk factor for developing gastric cancer is: \*\*\*

- A. Smoking
- B. Prior gastric surgery
- C. Alcohol
- D. Obesity
- E. H pylori infection



Answer: E

## 29. All are correct about C difficile colitis except:

- A. Most likely affect elderly patients with comorbidities
- B. The use of cephalosporin based abx is a risk factor
- C. Surgery is the first line of management
- D. Oral but not intravenous vancomycin is of help in this case
- E. Can be diagnosed by performing flexible sigmoidoscopy



Produces toxins A and B, which damage enterocytes. Both toxins lead to watery diarrhea → pseudomembranous colitis. Often 2<sup>nd</sup> to antibiotic use, especially clindamycin, ampicillin, cephalosporins, fluoroquinolones, associated with PPIs. Fulminant infection: toxic megacolon, ileus, shock.

Difficile causes diarrhea. Diagnosed by PCR or antigen detection of one or both toxins in stool. Treatment: oral vancomycin or fidaxomicin. For recurrent cases, consider repeating prior regimen or fecal microbiota transplant.

Answer: C

## 30. The modality of choice to diagnose a patient with gastric cancer is:

- A. Flexible endoscopy with multiple biopsy
- B. Diagnostic laparoscopy
- C. Double contrast barium swallow
- D. Ct
- E. Endoscopic ultra sound

Double-contrast barium swallow

- Cost effective and 90% diagnostic accuracy
- However, unable to distinguish benign from malignant lesions
- Endoscopy preferable

### Flexible upper endoscopy

- Modality of choice once gastric cancer is suspected.
- Multiple biopsies (seven or more required) from ulcer edges.
- Avoid biopsying ulcer crater (may reveal necrotic debris only).
- Note the size, location, and morphology of the tumour.

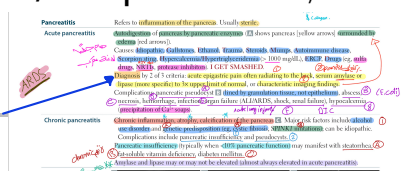
### Diagnostic laparoscopy

- Due to the inherent inaccuracies of CT and EUS, laparoscopy is indicated for evaluation of patients with locoregional disease
- Can detect metastatic disease in 30% of patients who are judged to be resectable on CT and EUS.
- Addition of laparoscopic ultrasound may improve detection of liver and peritoneal metastasis
- Cytology of peritoneal fluid obtained at laparoscopy may reveal the presence of free intraperitoneal gastric cells
- CT (computed tomography)
  - Chest, abdomen, and pelvis
  - Cannot distinguish T1 and T2 tumour (i.e. early gastric cancers)
  - Cannot detect small (<5mm) metastasis in the liver or on peritoneal disease.
  - Nodal detection relies on size and is a poor predictor of involvement particularly in the chest.
  - PET-CT may improve the detection of distant metastasis. Not a routine exam. Mainly used in follow-up and where there is a suspicion of progression.
  - Overall accuracy of 80-85%.

Answer: A

## 31. In order to diagnose acute pancreatitis, 2 out of three which of the following criteria are required? \*\*

- A. Epigastric pain, radiological evidence of pancreatitis, serum lipase at least 2 times normal
- B. Epigastric pain, radiological evidence of pancreatitis, serum amylase at least 3 times normal
- C. Cholelithiasis, radiological evidence of pancreatitis, serum amylase at least 3 times normal
- D. Epigastric pain, cholelithiasis, serum lipase at least 2 times normal
- E. Cholelithiasis, R/E of pancreatitis, serum lipase at least times normal

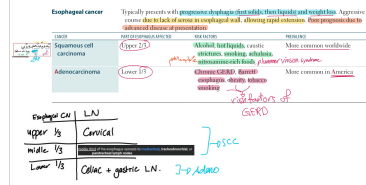


Answer: B



### 32. The most common risk factor for developing adenocarcinoma of the esophagus, is:

- Gastric CA*
- A. Alcohol
  - B. H pylori infection
  - C. Obesity
  - D. Barrit's metaplasia**
  - E. Smoking



#### B- Adenocarcinoma

The majority of cases are located near the **gastroesophageal junction** and are associated with endoscopic evidence of **Barrett's esophagus**.

- Adenocarcinoma arising in Barrett's esophagus may present as an ulcer, a nodule, an altered mucosal pattern, or no visible endoscopic abnormality
- Early adenocarcinoma not associated with Barrett's esophagus arises from an ulcer, plaque, or nodule near the gastroesophageal junction

Answer: D

### 33. One of the following represents a major risk of ruptured hydatid liver cyst: \*\*\*

- A. rupture to bronchial tree
- B. rupture to pericardium
- C. rupture to stomach
- D. biliary rupture
- E. anaphylactic shock**

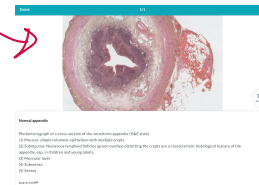
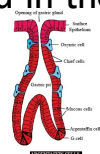
Features	Cystic echinococcosis	Alveolar echinococcosis
Incubation time	• Up to 50 years	• 5-10 years
Onset	• Usually asymptomatic	• Typically nonspecific symptoms
Hepatic	<ul style="list-style-type: none"> <li>• Single hepatic cyst (<b>hydatid cyst</b>)</li> <li>• Symptoms depend on the location and size of the cyst</li> <li>• Cyst rupture may cause anaphylactic reaction</li> <li>• Hepatomegaly → <b>RUQ pain</b></li> <li>• Malaise, nausea, vomiting</li> </ul>	<ul style="list-style-type: none"> <li>• Hepatic cyst</li> <li>• Hepatomegaly → RUQ pain</li> <li>• Malaise, weight loss, nausea, vomiting</li> <li>• Cyst that invades and destroys the liver and surrounding tissue</li> <li>• Portal hypertension</li> <li>• Budd-Chiari syndrome</li> <li>• Liver cirrhosis</li> <li>• May resemble hepatocellular carcinoma</li> </ul>
Extrahepatic	<ul style="list-style-type: none"> <li>• <b>Lung involvement</b> in 25% of cases → chest pain, cough, dyspnea, hemoptysis</li> <li>• Involvement of other organs is rare</li> </ul>	<ul style="list-style-type: none"> <li>• Primary involvement of other organs is very rare (&lt; 1% of cases)</li> <li>• Spread to other organs (especially lungs, brain, spleen) → 13% of cases</li> </ul>

Answer: E

Final 2018

### 34. Which of the following statements is true regarding the appendix?

- A. The appendicular artery arises from the right colic artery. → *It is a terminal branch of ileocolic artery*
- B. The commonest position of the appendix is pelvic. → *Retrocecal*
- C. The position of the base of the appendix is variable. → *Base is fixed, tip is not fixed*
- D. The submucosa is rich in lymphoid follicles.**
- E. Argentaffin cells are found in the apex of the crypts

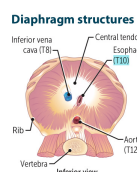


Answer: D

### 35. Which of the following structures does not pass through one of the three main diaphragmatic openings?

- A. Aorta
- B. Left vagus nerve
- C. Left phrenic nerve**
- D. Inferior vena cava
- E. Esophagus

*while the right passes*



**Diaphragm structures**

Structures perforating diaphragm:

- At T8: IVC, right phrenic nerve *Not left*
- At T10: esophagus, vagus (CN 10; 2 trunks)
- At T12: aorta (red), thoracic duct (white), azygos vein (blue) ("At T1-2 it's the red, white, and blue")

Diaphragm innervated by C3-5 (phrenic). Pain from diaphragm irritation can be referred to shoulder (CS) and trapezius ridge (C3-4). Phrenic nerve injury causes elevation of the ipsilateral hemidiaphragm on x-ray.

Number of letters = T level:

T8: vena cava (IVC)  
T10: (O)esophagus  
T12: aortic hiatus

I ate (S) ten eggs at twelve.

C3, 4, 5 keeps the diaphragm alive.

Other bifurcations:

- 1. The Common Carotid bifurcates at C4
- 2. The Trachea bifurcates at T4
- 3. The abdominal aorta bifurcates at L4



Answer: C

36. A 72-year-old man, a long-standing smoker, complains of progressive dysphagia with food sticking behind his mid-sternum for 3 months. The problem started with solids, but now he has difficulty with liquids. He has lost 14 kg of weight during this time. The most likely diagnosis is:

*frne obstruction (mechanical)*

- A. Achalasia of cardia (BAN)
- ☒ B. Carcinoma of esophagus
- C. Diffuse esophageal spasm (Both)
- D. Gastro-esophageal reflux disease (GERD) ✗
- E. Pharyngeal diverticulum ✗

Answer: B

37. Which of the following is not a risk factor for gastric cancer? \*\*\*

- A. Pernicious anemia
- B. Helicobacter pylori
- C. Partial gastrectomy
- ☒ D. Blood group O
- E. Gastric polyps

**ETIOLOGY**

- Dietary risk factors:
  - Smoked meat.
  - High nitrates contents.
  - Low fruits and vegetables.
  - Smoking.
- Demographic risk factors:
  - Male gender.
  - Low socioeconomic state.
  - Black race.
  - Blood Group type A.
  - Family history.
- Medical risk factors:
  - H. pylori infection.
  - Atrophic gastritis.
  - Previous partial gastrectomy.
  - Menétrier's disease.
  - P53 mutation is found in 50% of cases

Answer: D

38. Which of the following statements is FALSE of gastrointestinal (GI) secretions?

- A. Pancreatic fluid is alkaline.
- B. The chloride content of gastric fluid is around 110 mmol/L.
- ☒ C. Gastric fluid has a high concentration of potassium.
- D. Bile has a pH of 7.2.
- E. Most losses can be replaced with normal saline with or without potassium

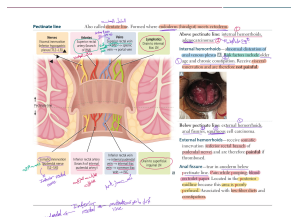
Answer: C

39. Which of the following statements is FALSE?

- A. The adult rectum is approximately 15 cm long.
- ☒ B. The superior rectal artery arises from the internal iliac artery.
- C. Is mainly innervated via parasympathetic fibers from S2 and 3.
- D. The superior rectal veins ultimately drain into the portal system.
- E. The lymphatics drainage is to the inferior mesenteric and internal iliac groups

**Rectum**

- The rectum is the terminal part of the large intestine, extending from the sigmoid flexure to the anal canal.
- It is approximately 15 cm long.
- The rectum is divided into three parts: the superior, middle, and inferior rectum.
- The superior rectum is the upper part of the rectum, extending from the sigmoid flexure to the level of the pubic line.
- The middle rectum is the middle part of the rectum, extending from the pubic line to the level of the ischioanal fossa.
- The inferior rectum is the lower part of the rectum, extending from the ischioanal fossa to the anal canal.
- The rectum is innervated by the parasympathetic nervous system, which originates from the sacral ganglia (S2-S4).
- The rectum is supplied by the superior, middle, and inferior rectal arteries, which arise from the internal iliac artery.
- The rectum drains into the inferior vena cava via the inferior mesenteric vein.
- The rectum is covered by the peritoneum, which is reflected to form the rectovesical pouch in males and the rectovaginal pouch in females.



Answer: B

40. Which of the following statements about hemorrhoids is TRUE?

- A. Primary hemorrhoids are typically 2 on the left and one right.
- B. External hemorrhoids are a sort of erectile tissue.
- ☒ C. The internal hemorrhoidal plexus extends from the anorectal ring to the dentate line.
- D. Stapled hemorrhoidectomy has an extremely low recurrence rate. (High % only for internal Hemorrhoids)
- E. Hemorrhoidectomy is indicated for failed medical treatment of 2nd-degree hemorrhoids.

• Sites: (When examined in the left lateral position)

- Right anterior (11 o'clock).
- Right posterior (7 o'clock).
- Left lateral (3 o'clock).

• External hemorrhoids comprise the dilated vascular plexus that is located below the dentate line and covered by squamous epithelium.

#### Surgery for hemorrhoids [7][6]

##### Indications [6][10]

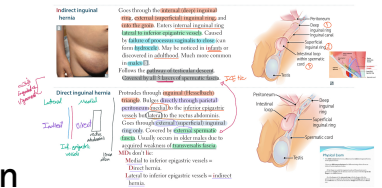
- Symptomatic grade III and IV internal hemorrhoids
- Symptomatic external hemorrhoids or combined external and internal hemorrhoids with prolapse
- No improvement after, or inability to tolerate, medical and office-based interventions

3rd & 4th

Answer: C

41. Which of the following statements regarding direct inguinal hernias is TRUE?

- A. They protrude medially to the inferior epigastric vessels
- B. They are common in women ~~(8% in women)~~
- C. They commonly reach the scrotal sac in men
- D. They obstruct more commonly than indirect hernias
- E. They are more common than indirect inguinal hernias in men



Answer: A

42. Which one of the followings is a good predictor for spontaneous closure of enterocutaneous fistula?

- A. Previous radiation therapy
- B. Presence of underlying abscess
- C. Long fistula tract
- D. Short fistula tract
- E. Presence of foreign body in the fistula tract

PATHOPHYSIOLOGY	
<b>Enterocutaneous Fistula</b> → from GIT to skin Intestine continues "toward" the skin	
<b>Causes</b> <ul style="list-style-type: none"> <li>• Anastomotic leak</li> <li>• Trauma: surgery</li> <li>• Infection: TB, Abscess</li> <li>• Crohn's disease</li> <li>• Diverticula (w/ or w/o colostomy)</li> </ul>	
<b>Information</b> <ul style="list-style-type: none"> <li>• Intestine enters into the barrel</li> <li>• Vascular compromise</li> </ul>	<b>Choleperitoneal Fistula</b> <ul style="list-style-type: none"> <li>• Connection b/w GB &amp; duodenum or other loop</li> <li>• due to large erosion, often result in fistula in the gallbladder (near the (hepatic) vena (gallstone) tract)</li> </ul>
<b>Complications</b> <ul style="list-style-type: none"> <li>• High output fistula</li> <li>• Malnutrition</li> <li>• Skin breakdown</li> </ul>	<b>Gastrocolic Fistula</b> <ul style="list-style-type: none"> <li>• Caused by penetrating ulcers, diverticula or colitis (rarely, Crohn's)</li> <li>• Complications are malnutrition &amp; dehydration</li> </ul>
<b>Investigations</b> <ul style="list-style-type: none"> <li>• CT scan → reveals out abscess/infection</li> <li>• Endoscopy</li> <li>• Laboratory</li> </ul>	<b>Management</b> <ul style="list-style-type: none"> <li>• NPO TPN</li> <li>• Treat the abscess</li> <li>• Rule out or correct the underlying cause</li> </ul>
<b>Treatment</b> <ul style="list-style-type: none"> <li>• 50% → resolve spontaneously after 4 weeks of support &amp; adequate nutrition</li> <li>• 50% → need surgery (considered dirty surgery)</li> <li>• Long fistula with fever</li> <li>• Extensive &amp; primary anastomosis</li> <li>• Vascular entrapment (bowel death)</li> </ul>	<b>Factors increase rate of closure</b> <ul style="list-style-type: none"> <li>• Long tract &gt; 2 cm</li> <li>• Small output &lt; 50 ml</li> </ul>

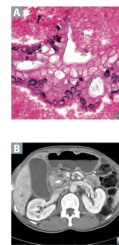
فستولا طويلة وقليلة الإفرازات

Answer: C

43. What is the most commonly associated risk factor for pancreatic adenocarcinoma? \*\*\*\*\*

- A. Smoking
- B. Chronic pancreatitis
- C. Diabetes mellitus
- D. Obesity
- E. Lynch syndrome

#### Pancreatic adenocarcinoma



Very aggressive tumor arising from pancreatic ducts (disorganized glandular structure with cellular infiltration [3]), often metastatic at presentation, with average survival = 1 year after diagnosis.

Tumors more common in pancreatic head (lead to obstructive jaundice). Associated with CA 19-9 tumor marker (also CEA, less specific).

Risk factors:

- ① Tobacco smoking (strongest risk factor)
- ② Chronic pancreatitis (especially > 20 years)
- ③ Diabetes
- ④ Age > 50 years

Often presents with:

- ① Abdominal pain radiating to back
- ② Weight loss (due to malabsorption and anorexia)
- ③ Migratory thrombophlebitis—redness and tenderness on palpation of extremities (Trousseau syndrome)
- ④ Obstructive jaundice with palpable, nontender gallbladder (Courvoisier sign)

Treatment: white chemo-precisive radiotherapy

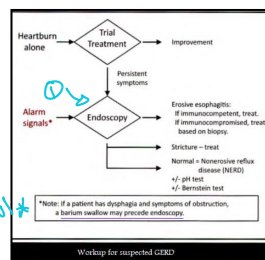
Libmann - Snell's endocarditis

Answer: A

44. What is the initial test for evaluation of patients with gastroesophageal reflux disease?

- A. 24-pH manometry
- B. Upper endoscopy
- C. Esophageal manometry
- D. Barium swallow
- E. Gastric emptying study

#### DIAGNOSIS



Answer: B

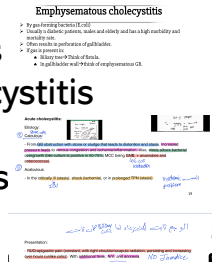
45. One of the followings is TRUE about diverticular disease:

- A. Most of patients will have complications during their life
- B. Young age is a good prognostic sign for the disease course
- C. Bleeding is the most common complication perforation
- D. Colonoscopy should be done during the acute attack to exclude concomitant colon cancer
- E. It is not precancerous

Answer: E

46. Which one of the following types of cholecystitis may mimic gall bladder adenocarcinoma?

- A. Emphysematous cholecystitis
- B. Xanthogranulomatous cholecystitis**
- C. Acute calculous cholecystitis
- D. Acute acalculous cholecystitis
- E. Chronic cholecystitis



**Xanthogranulomatous cholecystitis**

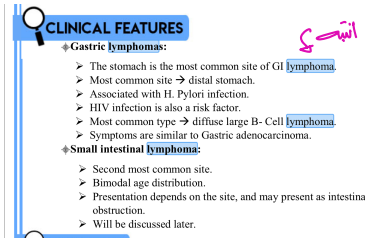
- A rare inflammatory disease of the gallbladder characterized by a focal or diffuse destructive inflammatory process.
- A foreign body-giant cell reaction that leads to formation and accumulation of xanthoma cells.
- Its importance lies in the fact that it is a benign condition that may be confused with carcinoma of the gallbladder.



Answer: B

47. The most common location of large bowel lymphoma is:

- A. Rectum
- B. Sigmoid
- C. Descending colon
- D. Transverse colon
- E. Cecum**

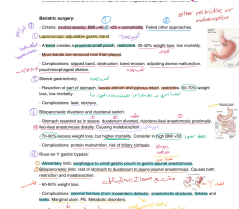


- c) Gastrointestinal lymphoma
- We talked about GI lymphomas in Chapter 1, here we'll concentrate on the small intestine.
  - The 2<sup>nd</sup> most common site for GI lymphoma is the small intestine.
  - It can present with obstructing, bleeding, anorexia or weight loss.
  - Usually seen in older people.
  - More common in ileum because it contains more lymph nodes.
  - Associated with celiac disease and immunosuppression (AIDS).
  - Treatment is medical unless complicated.
  - Complications are perforation, hemorrhage, obstruction, and intussusception.

Answer: E

48. The least effective bariatric procedure in term of excess weight loss (EWL) is:

- A. Laparoscopic sleeve gastrectomy
- B. Laparoscopic adjustable gastric band**
- C. Laparoscopic gastric bypass Roux-en-Y
- D. Laparoscopic minigastric bypass
- E. Laparoscopic biliopancreatic diversion with duodenal switch



Answer: B

49. All true about colorectal cancer EXCEPT:

- A. More common in young age group**
- B. the stage can predict the survival
- C. Colonoscopy is crucial in the diagnosis
- D. Staging of colorectal cancer does not include checking for bone metastasis
- E. Tenesmus as a symptom can occur in benign diseases as well as rectal cancer

peritoneal involvement

Answer: A

50. One is correct about familial adenomatous polyposis (FAP):

- A. It is a mutation at chromosome number 8
- B. Screening for colonic polyps should start at the age of 25
- C. The risk of adenocarcinoma is near 75%
- D. left hemi colectomy is the operation of choice in affected patients
- E. Osteoma is a recognized extra intestinal manifestation**



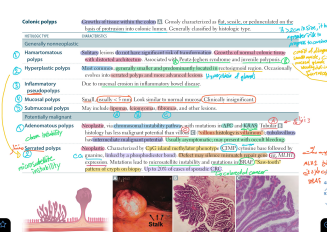
Answer: E

51. One of the following does not increase the risk of colorectal cancer:

- A. Ulcerative colitis for 15 years
- B. A 2 cm Villous adenoma in the rectum
- C. 10 polyps in the colon two of them more than 1 cm in size
- D. Hyperplastic polyp**
- E. 20 years of Crohn's colitis

Adenomatous polyps

Long standing IBD



Predisposing conditions

- Longstanding inflm. Bowel disease: UC and CD
- Cholecystectomy
- After gastrectomy and vagotomy
- Ulcerative sigmoiditis

Answer: D



## 52. The commonest complication of a liver hydatid cyst is (among the choices): \*\*

- A. Biliary communication.
- B. Free rupture to the peritoneal cavity.
- C. Cyst infection.
- D. Compression of the hepatic veins.
- E. Fistulization to a hollow viscus.

### Signs and symptoms:

- Most of the times the cyst remain uncomplicated and the symptoms they induce are related to the pressure or mass size (when the size is > 10cm) they exert on the liver, so the signs and symptoms are:
- 1. RUQ pain: most common symptom.

### Notes:

- I. The liver is affected (diseased) in 60% of the cases while the lungs are affected in 30% of the cases. In 90% of the cases there is single organ involvement.
- II. The Right lobe of the liver is mostly affected in 80% of the cases when the liver is affected, and in third of the cases the cysts are multiple.

Answer: A

## 53. Which is true regarding fibrolamellar variant of hepatocellular carcinoma?

- A. The tumor is small in size.
- B. It is usually a degeneration of focal nodular hyperplasia.
- C. The underlying liver is usually healthy.
- D. Resection is more difficult than the standard hepatocellular type.
- E. Alpha-fetoprotein is usually raised.

### Fibrolamellar variant of HCC:

- Seen in younger patients, more in the West. AFP usually not elevated. Better prognosis than HCC.

**Extra important note:**  
**Fibrolamellar hepatoma:**  
• It is a rare benign variant of HCC. However, there is considerable evidence that it is in fact a malignant tumor with a high degree of malignancy, but it is not yet clear if it is a distinct entity or a variant of HCC.  
• It is associated with a high degree of malignancy, but it is not yet clear if it is a distinct entity or a variant of HCC.  
• It is associated with a high degree of malignancy, but it is not yet clear if it is a distinct entity or a variant of HCC.  
• It is associated with a high degree of malignancy, but it is not yet clear if it is a distinct entity or a variant of HCC.

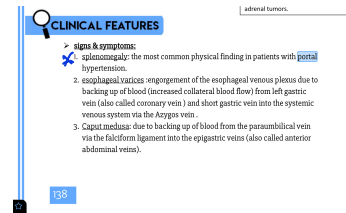
Answer: C

## 54. The most serious complication of portal hypertension is?

- A. Bleeding hemorrhoids.
- B. Infection of ascites.
- C. Ruptured esophageal varices.
- D. Encephalopathy.
- E. Hypersplenism.

### Complications:

- The most feared complication is bleeding from esophageal varices, the mortality rate from acute esophageal variceal bleeding is 50%.
- The diagnosis of esophageal varices is based on: signs and symptoms + confirmed by endoscopy



### Surgical shunt:

Used when other methods fail or if TIPS is not available and particularly when the bleeding is from gastric fundal varices.

### Types:

1. **Partial shunt:** shunt that directly decompress the portal vein but only partially.
2. **Selective shunt (Warren):** distal splenoportal shunt with ligation of the coronary vein (left gastric vein). It is associated with decreased incidence of portosystemic encephalopathy, however it is contraindicated in patients with ascites.

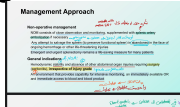
### Notes:

1. The most common perioperative cause of death following shunt procedure is hepatic failure secondary to reduced blood flow.
2. Major postoperative mortality after shunt procedure is increased incidence of hepatic encephalopathy (portosystemic encephalopathy) because of

Answer: C

## 55. One is true in regarding trauma of the spleen:

- A. This organ is rarely involved in blunt trauma. (Liver & spleen most common)
- B. Splenic preservation should be the rule when there are associated significant injuries.
- C. Immunization against encapsulated bacteria is indicated in splenectomy patients.
- D. Overwhelming postsplenectomy sepsis (OPSS) is more than 10%. (it's about 1%)
- E. Non-operative management is limited to grades 1&2.



Regardless of the grade

Answer: C

## 56. The vascularized ligament of the spleen is:

- A. Lienorenal.
- B. Phrenosplenic.
- C. Splenocolic.
- D. Gastrosplenic.
- E. Pancreaticosplenic.

LIGAMENT	CONNECTS	STRUCTURES CONTAINED	NOTES
Falciform ligament	Liver to anterior abdominal wall	Ligamentum teres hepatis (derivative of fetal umbilical vein), patent paraumbilical vein	Derivative of ventral mesentery
Hepatoduodenal ligament	Liver to duodenum	Portal triad: proper hepatic artery, portal vein, common bile duct	Derivative of ventral mesentery Pringle maneuver - ligament is compressed manually or with a vascular clamp to occlude the portal triad Bordered the omental foramen, which connects the greater and lesser sacs
Hepatogastric ligament	Liver to lesser curvature of stomach	Gastric vessels	Derivative of ventral mesentery Separates greater and lesser sacs on the right May be cut during surgery to access lesser sac
Gastrosplenic ligament	Greater curvature and transverse colon	Gastroepiploic arteries	Part of lesser omentum Derivative of dorsal mesentery
Gastrosplenic ligament	Greater curvature and spleen	Short gastrics, left gastroepiploic vessels	Part of greater omentum Derivative of dorsal mesentery Separates greater and lesser sacs on the left
Splenorenal ligament	Spleen to left pararenal space	Splenic artery and vein, tail of pancreas	Part of greater omentum Derivative of dorsal mesentery

### Peritoneal reflections (ligaments):

- Splenocolic ligament.
- Splenorenal (Lienorenal) ligament which contains the splenic veins, the tail of the pancreas and lymph nodes
- Gastrosplenic ligament which contains short gastric arteries, the left gastroepiploic vessels and lymph nodes
- Splenophrenic ligament.

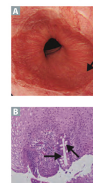
accessory spleen, mc site is the **splenic hilum** (cases), it could also be gastrosplenic omentum tail of pancreas or in retroperitoneum.

Answer: A

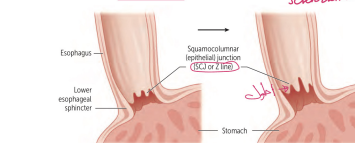
## 57. Barrett's esophagus is characterized by which of the following epithelial lining?

- A. Gastric columnar epithelium
- B. Stratified squamous epithelium non keratinized
- C. Stratified squamous keratinized
- D. Pseudostratified columnar epithelium
- E. Intestinal columnar epithelium**

Barrett esophagus



Specialized intestinal metaplasia (arrow in A) - replacement of nonkeratinized stratified squamous epithelium with intestinal epithelium (goblet cells) (arrows in B) in distal esophagus. Due to chronic gastroesophageal reflux disease (GERD). Associated with risk of esophageal adenocarcinoma.



Answer: E

## 58. In upper GI bleeding due to gastric ulcer, it is not recommended to do which of the following?

- A. History and physical exam
- B. IV fluids resuscitation
- C. IV Proton pump inhibitor
- D. Gastric lavage with Nasogastric tube**
- E. Serial Hb monitoring

Gastric lavage

- Method: administration of warm saline or water via a large-bore orogastric tube, followed by aspiration of the fluid, in order to remove pills and pill debris. **DOSAGE** [234]
- No clear indications
- Should only be performed in extremely rare situations and by experienced individuals [23]

- Contraindications [232]
  - Risk of aspiration
  - Ingestion of strong acids or alkalis [23]
  - Increased risk of GI bleeding or perforation
- Risks include:
  - Aspiration pneumonia or pneumonitis
  - Esophageal or gastric perforation
  - Fluid and electrolyte imbalances
  - Cardiac arrhythmias [232]



**Bleeding:** MC indication for surgery in duodenal ulcers. (typically, posterior duodenal ulcer, bleeding from GD artery).  
 Treatment: **get IV access and blood. PPI IV. If >6 units in 24 hours of hypotensive** this needs intervention. Endoscopy: look for **active bleed, vessel, visible clot**. Treat. Surgery to ligate GDA. If patient already on PPI, consider truncal vagotomy and pyloroplasty or HSV. If larger ulcer: vagotomy and antrectomy.

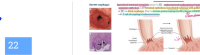
Answer: D

## 59. Which is false regarding Barrett's esophagus?

- A. Asymptomatic Barrett's requires annual follow up**
- B. Symptomatic Barrett's requires medical therapy with PPI ✓
- C. Anti-reflux surgery can reverse metaplasia in 35% and improve symptoms ✓
- D. Bleeding, ulceration, and structure can complicate the disease ✓
- E. Patients with mild dysplasia need more frequent screening ✓

Barrett esophagus

- It's an intestinal metaplasia of lower esophageal mucosa (change from stratified squamous epithelium into simple columnar epithelium with goblet cells).
- Risk factors are smoking and GERD, but many cases lack these risk factors.
- Diagnosed by endoscopy.
- Management is by PPI and follow-up:
  - i. No dysplasia → 3-5 years
  - ii. Low-grade dysplasia → 6-12 months
  - iii. High-grade dysplasia → 3 months



Answer: A (every 3-5 years)

## 60. A 38-year-old woman presents to the emergency department with a 12 hour history of severe pain over the right upper quadrant and vomiting. On examination, her pulse rate is 90/min and her temperature is 37.6o C. There is tenderness over the right hypochondrium but a soft abdomen. She says that she gets colicky pain over this region following fatty meals. Select the most likely diagnosis:

- A. Acute cholecystitis**
- B. Acute pancreatitis
- C. Acute hepatitis
- D. Perforated duodenal ulcer
- E. Renal colic

	Pain	✓	✓	✓	✓	✓
	Jaundice	X	X	X	X	X
	Systemic signs	X	✓	X	X	X

Acute cholecystitis: ✓  
 Acute pancreatitis: ✓  
 Acute hepatitis: ✓  
 Perforated duodenal ulcer: ✓  
 Renal colic: ✓

☆ **colic** have CBD stones as well.

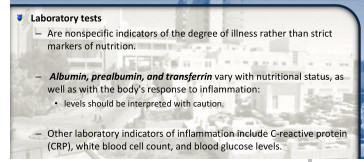
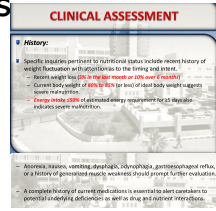
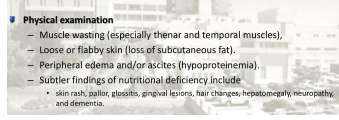
Systemic symptoms + RUQ pain

No Jaundice

Answer: A

61. A major problem in nutritional support is identifying patients at risk. All of the following can identify the patient at risk, EXCEPT: (general)

- A. Weight loss of greater than 15% over 2 to 4 months  
B. Serum albumin.  
C. Malnutrition as identified by Physical examination.  
D. Serum transferrin.  
E. Hemoglobin Level.



Answer: E

# Final 2017

62. Which finding suggests the diagnosis of chronic ulcerative colitis as opposed to Crohn's colitis?

- A. Endoscopic evidence of backwash ileitis.**  
B. Granulomas on biopsy.  
C. Anal fistula.  
D. Rectal sparing.  
E. Cobblestone appearance on barium enema.

### Backwash ileitis

- **Definition:** inflammation of the terminal ileum in the context of ulcerative colitis
- **Epidemiology:** affects approximately 10-20% of all patients diagnosed with ulcerative colitis
- **Localization:** typically affects an area a few centimeters proximal to the ileocecal valve
- **Pathophysiology:** The pathological mechanism is not fully understood.
- **Differential diagnosis:** Clinically, backwash ileitis is hardly relevant but its presence makes it harder to differentiate between ulcerative colitis and Crohn disease.



Answer: A

63. Activation of trypsinogen as an initial step in acute pancreatitis is conducted by: \_\_\_\_\_

Pancreatic secretions		
ENZYME	ROLE	NOTES
① $\alpha$ -amylase	Starch digestion	Secreted in <b>active form</b>
② Lipases	Fat digestion	
③ Proteases	Protein digestion	<ul style="list-style-type: none"> <li>Includes <b>trypsin</b>, <b>chymotrypsin</b>, <b>elastase</b>, <b>carboxypeptidases</b></li> <li>Secreted as <b>proenzymes</b> also called <b>zymogens</b></li> <li><b>Dipeptides</b> and <b>tripeptides</b> degraded within <b>intestinal mucosa</b> via <b>intracellular process</b></li> </ul>
④ Trypsinogen	Converted to active enzyme <b>trypsin</b> → <b>activation of other proenzymes and cleaving of additional trypsinogen molecules into active trypsin (positive feedback loop)</b>	Converted to trypsin by <b>enterokinase/enteropeptidase</b> , a brush-border enzyme on duodenal and jejunal mucosa

Answer: C

64. Pseudo-obstruction syndrome (ogilvie's), all true except:

- A. Increased sympathetic tone and decreased parasympathetic tone.  
 B. More on the left side  
 C. Risk of perforation is 15%
- Acute colonic pseudo-obstruction/Ogilvie

## Acute colonic pseudo-obstruction/Ogilvie syndrome

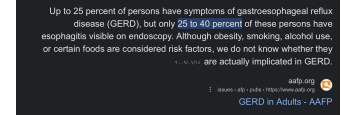
- ❖ This condition usually occurs in the setting of a wide range of medical or surgical illnesses.
- ❖ If untreated, **colonic ischemia or perforation can occur.**
- ❖ The right **colon and cecum** are most commonly involved.
- ❖ The risk of **perforation ranges from 3-15%**

- ❖ Olgivie syndrome, is thought to result from an autonomic imbalance, which results from decreased parasympathetic tone or excessive sympathetic output.
- ❖ is characterized by a loss of peristalsis and results in the accumulation of gas and fluid in the colon.

Answer: B

## 65. Wrong about GERD:

- A. 90% will have esophagitis on endoscopy due to reflux (60% will show normal mucosa on endoscopy).
- B. Not all types of reflux are diagnosed by PH monitoring
- C. Barium swallow > hiatal hernia

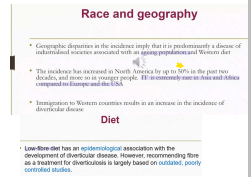


1. Sliding hiatal hernia (Type I):  
 ➤ Both the stomach & GE junction herniate into the thoracic cavity  
 ➤ Most common type of hiatal hernia (90% of cases)  
 ➤ Mostly asymptomatic, but may present with GERD, dysphagia, dyspepsia, and pulmonary problems  
 ➤ Diagnosed by UGI series, Manometry and endoscopy with biopsy  
 ➤ Treatment is medical in 85% of cases, and surgical in 15% of cases

Answer: A

## 66. All of the following statements about diverticular disease are true, EXCEPT: \*\*

- A. It is more common in the West than in Asia and Africa. ✓
- B. A low-fiber diet may predispose to development of diverticulosis. ✓
- C. It involves sigmoid colon in more than 90% of patients. ✓
- D. Sixty per cent develop diverticulitis sometime during their lifetime. ✓
- E. It is the most common cause of massive lower gastrointestinal hemorrhage. ✓



Diverticular haemorrhage
<ul style="list-style-type: none"> <li>• 3-5 %</li> <li>• The majority of diverticular haemorrhages cease spontaneously</li> <li>• May need angiography, emergency resection.</li> <li>• Elderly patient with high mortality</li> </ul>

- **Diverticular bleeding** [17][18]
  - Epidemiology
    - Diverticulosis is the most common cause of lower GI bleeding in adults.
    - Occurs in ~ 5% of individuals with diverticulosis

Answer: D

## 67. Genetic defect associated with HNPCC:

- A. APC (FAP)
- B. MLH1/MSH2
- C. P53 (Li Fraumeni sx)

Lynch syndrome

Also called **hereditary nonpolyposis colorectal cancer (HNPCC)**. Autosomal dominant mutation of mismatch repair genes (eg. **MLH1, MSH2**) with subsequent microsatellite instability < 80% progress to CRC. Proximal Colon is always involved. Associated with Endometrial, Ovarian, and Skin cancers. Merrill Lynch has CEOs.

Answer: B

## 68. Wrong about hemorrhoids:

- A. 2 right hemorrhoid quadrants and 1 left
- B. Mainly in young adult
- C. Grade III > surgery
- D. Grade II refractory to medical treatment >> banding

### NOMENCLATURE AND CLASSIFICATION

- Grade 1 internal hemorrhoids are those that bulge into the lumen of the anal canal and may produce painless bleeding.
- Grade 2 internal hemorrhoids are those that protrude at the time of a bowel movement but reduce spontaneously.
- Grade 3 internal hemorrhoids are those that protrude spontaneously or at the time of a bowel movement and require manual replacement.
- Grade 4 internal hemorrhoids are those that are permanently prolapsed and irreducible despite attempts at manual replacement. They may or may not be complicated

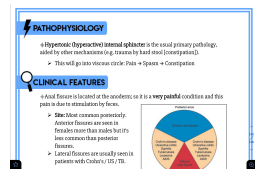
### Treatment in general

- Medical; 1<sup>st</sup> and 2<sup>nd</sup> degree
- Minor procedures; failed medical Rx 1<sup>st</sup> and 2<sup>nd</sup> degree, some 3<sup>rd</sup> degree
- Surgery; 3<sup>rd</sup> and 4<sup>th</sup> degree

Answer: B

## 69. Wrong about anal fissures:

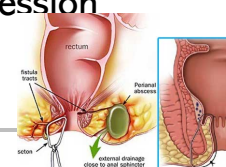
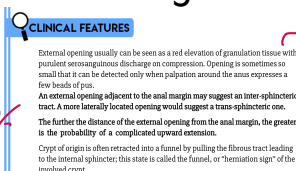
- A. Anterior fissures are more common than posterior fissures
- B. Sentinel pile >> chronic fissure
- C. Usually hyperactive internal sphincter
- D. Acutely managed by bulking agents, sitz baths and good hygiene.



Answer: A

## 70. Wrong about fistula:

- A. Intersphincteric > most common
- B. Seton is associated with negligible incontinence
- C. External opening usually can be seen as a red elevation of granulation tissue with purulent serosanguinous discharge on compression



Seton: thick suture placed through fistula tract to allow slow transection of sphincter muscle; scar tissue formed will hold the sphincter muscle in place and allow for continence after transection.



- External opening usually can be seen as a red elevation of granulation tissue with purulent serosanguinous discharge on compression.
- Opening is sometimes so small that it can be detected only when palpation around the anus expresses a few beads of pus

المادة 107 من القانون رقم 13 لسنة 2002

١٠ What is the meaning of management?

المديرية، المدير

That is link that connects the internal spinners and their flow is facts the actions of the internal spinners

المديرية

Financial Table - Published

المادة 108 من القانون رقم 13 لسنة 2002

١١ What is the meaning of Management?

المديرية، المدير

١٢ Make the difference between Administrative and Management, focus on management (MGT) - The table presents through the internal controller to open the internal spinners. Transmits (MGT) - The table comes through both the internal and external spinners.

1. Choledocal cyst
2. Primary sclerosing cholangitis
3. Ulcerative colitis
4. Radiation exposure
5. Toxin exposure
6. Parasitic infection

[illegible]

Immediate laparoscopic cholecystectomy for acute cholecystitis within 24 hour of symptom onset is not superior to surgery 25-72 hour after symptoms begin. Laparoscopic cholecystectomy for acute cholecystitis therefore can be safely performed anytime within the golden 72 h.

**Zollinger-Ellison syndrome**

① Gastrin-secreting tumor (gastrinoma) of duodenum or pancreas. ② Gastrin stimulates gastric acid secretion. ③ Gastric acid hypersecretion causes recurrent ulcers and duodenitis and diarrhea. Patients with abdominal pain, diarrhea, and duodenal ulcer malabsorption. Positive secretin stimulation test. Gastrin levels after administration of secretin, which normally inhibits gastric secretion. May be associated with MEN1.

Secretin ↑ blood test

↑ Gastric acid

↑ pH

↓ pH

Normal


- Consider gastrinoma
- Obtain FST and

- Consider gastrinoma in patients with recurrent, therapy-resistant PUD, GERD, abdominal pain, and/or diarrhea
- Obtain FSG and gastric pH levels in all patients.
- If initial studies are inconclusive, order a secretin stimulation test or measure basal gastric acid output.
- After diagnostic confirmation:
  - Assess for underlying MEN 1 syndrome and other related conditions.
  - Obtain EGD and abdominal imaging to localize the gastrinoma and assess for metastases.

**Femoral hernia**

Protrudes **below inguinal ligament** through **femoral canal** and lateral to pubic tubercle. More common in **females**, but overall **inguinal hernias are the most common**. More likely to present with **incarceration or strangulation** (vs inguinal hernia).

*10/10*



The diagram illustrates a femoral hernia. It shows a cross-section of the pelvic region with the inguinal ligament and femoral canal. A loop of the intestine is shown protruding through the femoral canal, labeled as the 'Internal loop beneath inguinal ligament'.

## Acute Appendicitis

### INTRODUCTION

- **Definition:** inflammation of the appendix caused by obstruction of the appendiceal lumen, producing a closed loop with resultant inflammation that can lead to necrosis and peritonitis
- **Epidemiology:**
  - life-time incidence ~ 7% of population
  - Avg age ~ 20 – 30 years

### ETIOLOGY

- **Causes:**
  - Fecalith ~ 40%, "most common"
  - Obstruction of terminal ileum
  - Tumour c. caecum
  - Vegetable / fruit seeds
  - Insectal parasites / worms
  - Impacted faecal from previous X-ray

Most common pathogens:  
 - E.coli  
 - Bacteroides fragilis

- Acute appendicitis is usually misdiagnosed in females & elderly
- Rate in extent of spread (if it happens) ~ life threatening due to uncontrolled

**Variations in position: Vermiform Appendix**

Diagram illustrating the variations in the position of the vermiform appendix relative to the cecum and terminal ileum. The appendix is shown in its normal position (100%) and in various other positions: 15% (retrocecal), 5% (subcecal), 5% (pelvic), 15% (ascending), 0.5% (transverse), and 0.5% (descending).

- The base of the appendix is **fixed in position** while its tip is in various positions.
- Most common site = **Retrocecal** (~74%)
- 2<sup>nd</sup> site = **Pelvic** (~18%)
- Appendix lumen capacity = 1 L.
- To locate the appendix → be aware of cecum → follow the 3 major colic vessels down to the base of the appendix

76. Regarding anal fissures, all of the following statements are true EXCEPT:

- A. 10% occur in the posterior midline *(most common in posterior) →*
- B. Multiple fissures suggest a diagnosis of Crohn's Disease ✓
- C. Fifty percent of acute fissures heal with the use of a bulking agent
- D. Sphincterotomy has a success rate of over 90%
- E. Sphincterotomy is associated with minor incontinence in 15% of patients

Primary (due to local trauma)  
• Location: 90% of all anal fissures located at the posterior commissure (6 o'clock in the lithotomy position)

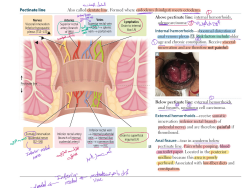
What causes multiple fissures?  
Multiple fissures and large, irregular, or large and irregular fissures, or fissures off the midline are considered atypical. Atypical fissures may be caused by malignancy, chemotherapy, sexually transmitted infections, inflammatory bowel disease, or other traumas

Answer: A

77. Regarding the anatomy of the anorectum all the following statements are correct EXCEPT:

- A. The anorectal angle is usually obtuse in females *(more fat)*
- B. The anal glands are mostly located in the intersphincteric space
- C. The anoderm is devoid of sweat glands *skin appendages*
- D. The dentate line is the true embryologic squamocolumnar junction
- E. The internal sphincter is involuntary

*External = voluntary*



Anorectal and anal. From anal verge to the dentate line (1 cm) (low endorectal and external sphincter).  
Surgical anal canal: from anal verge to the anorectal ring (1 cm).  
Anorectal: The opening of the anus in the surface of the body. It is the transitional area between the rectum, haemoid, modified skin of the anal canal and the perianal skin.  
Dentate line (Pectinate line): A mucocutaneous line that separates proctal, glandular tissues from anal, smooth anoderm (1-2 cm above anal verge). Formed by union of crypts. The spaces within the crypts are called crypts, into which the ducts of anal sacs secrete and glands open.  
It is considered a surgical area because it separates two embryonic structures that differ in their epithelium, innervation, blood supply and lymphatic drainage.  
Anal mucosa proctoderm: derived from the hindgut by embryonic epithelium; requires dentate line as a special form of skin (epithelium) that is derived from the appendages. It is called the anoderm.  
The transitional area (1-2 cm) between the dentate line and the anal verge is called the anal canal. It is a transitional area between the rectum and the anal canal. This area is lined by columnar, squamous or type of epithelium.  
Anal glands:  
• 40-60 in number.  
• Lay in the intersphincteric plane.  
• Their ducts open in the crypts.  
• Most of them are located in the anterior part of the anus.  
Anal sphincters: Internal and External.  
The internal sphincter: specialized smooth muscle fibers from circular layer; involuntary, contracted at rest, responsible for 80% of resting pressure.  
The external sphincter: striated muscle. A contraction of puborectalis muscle, responsible for 20% of resting pressure and 80% of voluntary pressure.

Answer: D

78. A 45 year old male patient arrived to the Accident and Emergency department at Jordan University Hospital complaining of upper abdominal pain that radiate straight to the back with vomiting. He had unremarkable past medical illness; his vital signs were stable, examination of the abdomen showed only tenderness at the epigastrium. The most likely cause of his illness is:

- A. Perforated peptic ulcer disease
- B. Acute pyelonephritis
- C. Acute diverticulitis
- D. Early acute pancreatitis *Trauma (I GET SMASHED)*
- E. Viral hepatitis

Answer: D

79. A 35 year old male patient, admitted with abdominal pain, distension and excessive vomiting. He had previous history of appendectomy at the age of 18. The most likely cause for this illness is:

- A. Internal hernia
- B. Right colon cancer
- C. Volvulus
- D. Adhesions
- E. Acute mesenteric ischaemia

*Intestinal obstruction symptoms*

Answer: D

80. All of the following parameters influence the risk of metastatic spread after resection of colorectal cancer, except

- A. Degree of differentiation
- B. Lymphovascular invasion
- C. Positive circumferential margin
- D. Lymph node positivity
- E. T stage

Answer: E

81. With regard to Crohn's disease, all of the following statements are true, EXCEPT:

- A. Bloody diarrhea is a frequent symptom
- B. The absence of granulomas does not exclude the diagnosis
- C. Intestinal obstruction is the commonest indication for surgery
- D. Malignancy occurs less frequently in comparison with ulcerative colitis
- E. Crypt abscess is not characteristic for Crohn's disease

Answer: A

82. A 40-year-old male with cecal mass diagnosed by colonoscopy, his father, paternal grandmother, and paternal uncle all developed colon cancer by their fifth decade. Mutation of which of the following genes is associated with this disease?

- A. APC
- B. BRCA1
- C. BRCA2
- D. hMSH2
- E. K-Ras

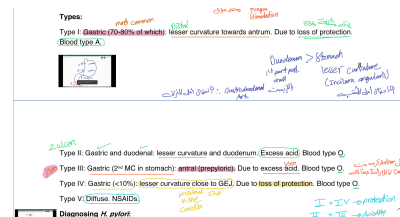
Lynch syndrome

Also called hereditary nonpolyposis colorectal cancer (HNPCC). Autosomal dominant mutation of mismatch repair genes (e.g., MLH1, MSH2) with subsequent microsatellite instability < 80% progress to CRC. Proximal colon is always involved. Associated with endometrial, ovarian, and skin cancers. Merrill Lynch has CEOs.

Answer: D

83. The pathogenesis of benign type I gastric ulcers is predominantly which one of the following? \*\*

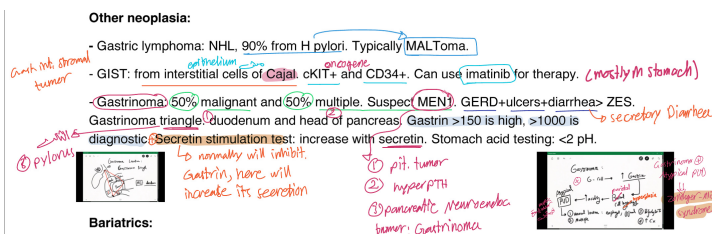
- A. Hypersecretion of acid as a result of increased parietal cell mass
- B. Hypergastrinemia as a result of gastric stasis
- C. Antral stasis
- D. Defective gastric mucosal barrier
- E. Hyperpepsinobemia



Answer: D

84. The cell of origin of gastrointestinal stromal tumors (GIST) is: \*\*\*\*\*

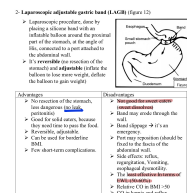
- A. Goblet cell
- B. Submucosal fibroblast
- C. Interstitial cell of Cajal
- D. Smooth muscle cell
- E. Kulchitsky cell



Answer: C

85. All of the following statements regarding laparoscopic adjustable gastric band (LAGB) are true; **except:**

- A. LAGB is not a good option for sweet eaters
- B. Long term excess weight loss after band surgery is comparable to sleeve gastrectomy
- C. Reoperation rate in band surgery is more than other bariatric procedures
- D. Dumping syndrome is not a significant concern after LAGB
- E. Leak rate after LAGB is less than other procedures



Answer: B

86. All of the followings are variables of Child-Pugh classification for the assessment of patients with chronic liver disease, **EXCEPT: \*\*\***

- A. Encephalopathy
- B. Partial thromboplastin time (INR)
- C. Total bilirubin
- D. Serum albumin
- E. Ascites

**Child Classification**

	1	2	3
Bilirubin (mg/dl)	<2.0	2-3	>3.0
INR	<1.7	1.7-2.3	>2.3
Albumin (mg/dl)	>3.5	2.8-3.5	<2.8
Encephalopathy	None	I-II	III-IV
Ascites	None	Slight Moderate	Tense

Child-Pugh classification of CLD: A=5, class B=7-8, class C=10-15. Class B and MELD 10 and above is considered for transplant.

Answer: B

87. Concerning perforated peptic ulcer (PPU), all of the following statements are true **EXCEPT:**

- A. Perforation represents the most frequent indication for emergency surgery in patients with peptic ulcer disease. *But is the 2nd most common complication*
- B. In patients with perforated peptic ulcer, peritonitis resulting from acid exposure may present as abdominal "board-like rigidity".
- C. Only one third of patients with PPU have a previous history of or current known ulcer at time of diagnosis of perforation.
- D. Compared to open surgery, laparoscopic repair of PPU is associated with lower rates in mortality and in clinically relevant postoperative complications.
- E. In patients with PPU, sepsis is frequently present on arrival to the operating theatre and is the leading cause of death

**Surgical management [12]**

Open surgical management is indicated in cases of perforated peptic ulcer with peritonitis or severe haemorrhage.

- Indications:
  - Perforated peptic ulcer
  - Severe haemorrhage
  - Peritonitis
- Procedure: Laparoscopic repair with mesh fixation is usually preferred.
  - Open repair with mesh fixation
  - Resection of the ulcer with or without C-114
  - Closure of the perforation, if feasible
  - Resection of the ulcer with or without C-114
- Resection of the perforated segment of bowel with primary anastomosis or temporary diversion

Answer: D

88. Concerning management of upper gastrointestinal bleeding (UGIB), all of the following statements are true **EXCEPT:**

- A. There is a need to insert bilateral, 16-gauge (minimum), upper extremity peripheral intravenous lines.
- B. Once the maneuvers to resuscitate are underway, a nasogastric tube should be inserted, and then aspiration and lavage performed.
- C. If the nasogastric aspirate reveals clear gastric fluid and contains no bile, the gastrointestinal bleeding is emanating from below the ligament of Treitz.
- D. Upper gastrointestinal endoscopy should be performed initially after endotracheal intubation (if indicated), hemodynamic stabilization, and adequate monitoring.
- E. The indication for patients in patients with bleeding peptic ulcer includes failure of medical therapy and endoscopic hemostasis with persistent recurrent bleeding.

**All patients [9][10][13][11][12]**

- Ensure patient is NPO. ☐
- Insert two large-bore peripheral IVs (for possible fluid resuscitation and blood transfusion) and obtain blood samples for laboratory studies (e.g., CBC, type and screen). ☐
- Conduct a focused history and examination (including DRE). ☐
- Risk stratify to guide further management.
- Consider the following prior to hemostatic procedures (see "Empiric pharmacotherapeutic interventions for GI bleeding" for details):
  - Pretreatment (e.g., IV PPI) ☐
  - Anticoagulant reversal (e.g., for life-threatening bleeding)
  - Withholding antithrombotic agents



*Amboss*

**General Approach to the patient with Acute Upper GI Bleeding**

- Guiding Principles
  - Restoration or maintenance of hemodynamic stability
  - Blood products if needed
  - Nasogastric lavage
  - Endoscopy with hemostasis if indicated
  - Antisecretory medications
  - Surgery if necessary

Answer: C

## 89. Concerning lower gastrointestinal bleeding (LGIB), all of the following statements are true EXCEPT:

- A. If the bleeding is brisk and massive, upper GI bleeding and right sided colonic bleeding may present with bright red blood per rectum. ✓
- B. Resuscitation and initial assessment should be followed by localization of the bleeding site. ✓ *فيديو*
- C. Radionuclide scanning is associated with a very low false localization rate for the bleeding site. *فيديو* *فيديو***
- D. In addition to its success in identifying the site of severe LGIB (in  $\geq 70\%$  of patients), colonoscopy
- A. offers the opportunity for therapeutic intervention. *فيديو*
- E. Selective mesenteric angiography can detect bleeding at a rate of more than 0.5 mL/min.

Answer: C

## 90. A 34-year-old man presents with fresh painless rectal bleeding, he is constipated, his weight is steady, and his appetite is normal, he has no family history of large bowel cancer. The most likely diagnosis is?

- A. Anal fissure. *فيديو*
- B. Haemorrhoids. *Internal***
- C. Diverticulosis. *% older people*
- D. Thrombosed piles.
- E. Colon cancer

*Not CA & No family Hx*

*استدلال فيديو*

## 66. All of the following statements about diverticular disease are true, EXCEPT: \*\*

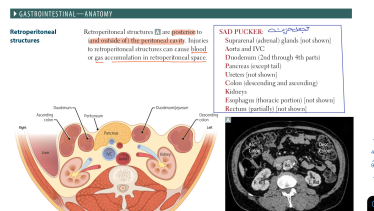
- A. It is more common in the West than in Asia and Africa. ✓
- B. A low-fiber diet may predispose to development of diverticulosis. ✓
- C. It involves sigmoid colon in more than 90% of patients. ✓
- D. Sixty per cent develop diverticulitis sometime during their lifetime. ✓
- E. It is the most common cause of massive lower gastrointestinal hemorrhage. ✓

Answer: D

Answer: B

## 91. Which of the following structures is NOT retroperitoneal?

- A. Ascending colon.
- B. Seminal vesicles.
- C. Descending colon.
- D. Duodenum (D2).
- E. Ovaries.**



Answer: E

## 92. The clinical picture of gallstone ileus includes all of the following EXCEPT:

- A. Air in the biliary tree.
- B. Small bowel obstruction.
- C. A stone at the terminal ileum.
- D. Acholic stools.**
- E. Bouts of cholangitis. *Recurrent*

**CLINICAL FEATURES**

➤ Signs and symptoms:

- Signs and symptoms of small bowel obstruction: RUQ pain, distention, vomiting and hypovolemia.

**DIAGNOSIS**

- Clinical features
- Abdominal x ray shows:
  - Reveals radio opaque gall stone in the bowel (most commonly near ileocecal valve)
  - 40% of patient show AIR in the biliary system (air in the hepatic ducts)
  - Small bowel distention
  - Air-fluid levels secondary to ileus
- Upper GI series
- Abdominal CT shows:
  - Reveals air in the biliary system
  - Features of small bowel obstruction
  - gall stone in the bowel.

**TREATMENT**

➤ Surgical → enterotomy with removal of stone + interval (delayed) cholecystectomy.

Answer: D



### 93. Which of the following statements about achalasia is CORRECT?

- A. In most cases the cause is a parasitic infestation by *Trypanosoma cruzi*. (mostly Idiopathic)
- B. Chest pain and regurgitation are the usual symptoms.
- C. Distal-third esophageal adenocarcinomas may occur in as many as 20% of patients within 10 years of diagnosis. proximal 2/3 SCC
- ☒ D. Manometry demonstrates failure of LES relaxation on swallowing and absent or weak simultaneous contractions in the esophageal body after swallowing. ✓
- E. Endoscopic botulinum toxin injection of the LES, pneumatic dilatation, and esophagomyotomy provide highly effective curative therapy for achalasia.

No, Low effective

Answer: D

### 94. The most useful circulating marker for patients with hepatocellular carcinoma is: \*\*

- A. CA 15.3
- B. Levels of vitamin B 12
- C. CEA
- ☒ D. Alpha fetoprotein
- E. hCG

Investigation:  
1. Tumor marker: increase in  $\alpha$ -feto protein.

- 2. Ultra Sound.
- 3. CT.
- 4. Angiogram.
- 5. tissue biopsy with CT / Ultra Sound/ or laproscopic guidance : the most common way to diagnose HCC

Answer: D

### 95. The most common neuroendocrine tumor of the pancreas is:

- ☒ A. Insulinoma
- B. Glucagonoma
- C. Gastrinoma
- D. VIPoma
- E. Somatostatinoma

Endocrine neoplasia:  
 1. Insulinoma (MC): hypoglycemia (Whipple triad: fatigue, low glucose, resolves with glucose).  
 2. Non glucose and high insulin: 12 p.m. (fasting insulin tests) - 4-10% are malignant.  
 Treatment: diazoxide (reduces insulin), Octreotide pre-op, and remove tumor only. If metastatic: octreotide, diazoxide, streptozocin.  
 3. Gastrinoma: refer to stomach lecture (70% are malignant) (MC in MEN1).  
 4. VIPoma: WDHA (watery diarrhea, hypokalemia, achlorhydria).  
 5. Glucagonoma: 4-6% Dermatitis (acrocyanotic migratory erythema), DM type II, DVTs, depression.  
 6. Somatostatinoma (least common): gallstones (low CCK), diabetes (low insulin), steatorrhea (low secretin and CCK), hypochlorhydria (low gastrin).

#### Pancreatic islet cell tumors

**Insulinoma**  
 Tumor of pancreatic  $\beta$  cells  $\rightarrow$  overproduction of insulin  $\rightarrow$  hypoglycemia.  
 May see Whipple triad: low blood glucose, symptoms of hypoglycemia (eg. lethargy, syncope, diplopia), and resolution of symptoms after normalization of plasma glucose levels. Symptomatic patients have a blood glucose and ICG-peptide levels (vs exogenous insulin test) - 10% of cases associated with MEN1 syndrome.  
 Treatment: surgical resection, not octreotide.

**Glucagonoma**  
 Tumor of pancreatic  $\alpha$  cells  $\rightarrow$  overproduction of glucagon.  
 Presents with 6 D's: dermatitis (necrolytic migratory erythema), diabetes (hyperglycemia), DVT, declining weight, depression, diarrhea.  
 Treatment: octreotide, surgical resection.

**Somatostatinoma**  
 Tumor of pancreatic  $\delta$  cells  $\rightarrow$  overproduction of somatostatin  $\rightarrow$  secretion of secretin, cholecystokinin, glucagon, insulin, gastrin, gastric inhibitory peptide (GIP).  
 May present with diabetes, glucose intolerance, steatorrhea, gallstones, achlorhydria.  
 Treatment: surgical resection, somatostatin analogs (eg. octreotide) for symptom control.

Answer: A

### 96. Krukenberg tumour results from which of the following methods of metastasis?

- A. Direct spread
- ☒ B. Transcoelomic spread
- C. Lymphatic spread
- D. Hematogenous spread
- E. Neurogenic spread

**Gastric cancer**  
 1. Most common - gastric adenocarcinoma.  
 2. Diffuse, linitis plastica, cancer.  
 3. Early aggressive local spread with node/lymph metastases. Often presents late, with weight loss, early satiety, abdominal pain, obstruction, and in some cases squamous Nodules or jaundice (W. L. P. N.).  
 4. Associated with H. pylori, dietary nitrosamines, smoked foods common in East Asian countries, tobacco smoking.  
 5. Gastric carcinoma looks like the ulcer with mixed margins - central type associated with blood type A.  
 6. Diffuse - not associated with H. pylori, cancer due to intestinal metaplasia, gastric cells (mucin-filled cells with purple nuclei) D. stomach wall grossly thickened and linitis plastica.  
 7. Int type of gastric CA.  
 8. Gastric ulcer are on lesser curvature.  
 9. Metastatic sites:  
 10. Visceral nodes - involvement of left supraclavicular node by metastasis from stomach.  
 11. Krukenberg tumor - metastasis to ovaries typically bilateral, abundant mucin-secreting signet ring cells.  
 12. Secondary malignant osteolytic - osteoclasts.  
 13. Blumer shelf - palpable mass on digital rectal exam suggesting metastatic to rectosigmoid pouch (pouch of Douglas).

Transcoelomic spread contd...

- Krukenberg tumour
- Gastric carcinoma with secondary deposits in the ovary and pouch of Douglas
- Colonic carcinoma with secondary deposits in the ovary and pouch of Douglas

Answer: B

### 97. Absorption of the majority of nutrients takes place in which part of the gastrointestinal tract? (general?)

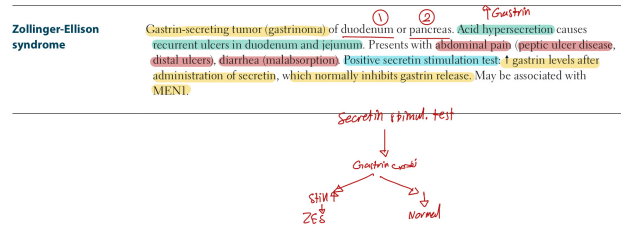
- A. Stomach
- B. Duodenum
- ☒ C. Jejunum
- D. Ileum
- E. Colon



Answer: C

## 98. Not a manifestation of Zollinger-Ellison syndrome:

- A. Migratory rash
- B. Diarrhea
- C. Multiple peptic ulcerations
- D. Vomiting



Answer: A

## 99. The enzyme that's auto activated to its active form is: \*\*

- A. Enterokinase
- B. CCK
- C. Chemotrypsin
- D. Gastrin
- E. Trypsin

Answer: E

## 100. Wrong about Crohn's disease:

- A. Bloody diarrhea is a common presentation
- B. Most common indication of surgery is obstruction ✓
- C. The absence of granuloma doesn't exclude dx ✓
- D. Crypt abscesses is not pathognomonic ✓

Answer: A

## 101. Regarding Small intestinal tumors, all are true except:

- A. Younger age group
- B. Malignant tumors have symptoms of pain and weight loss
- C. Benign lesion usually found incidentally
- D. Celiac disease predisposes for small intestinal lymphoma
- E. Ultrasound not useful in small intestinal tumors

**Malignant Tumours of Small Intestine**

- Malignant neoplasms almost always produce symptoms
- The most common: pain and weight loss
- Obstruction in 15-35% of patients (adhesions and infiltration)
- Diarrhoea and excess mucus
- GI bleeding, anaemia

**Presentation**

- Sixth and seventh decades of life
- Benign tumours are found incidentally at laparotomy or autopsy
- vague symptoms, absence of clinical signs, the difficulty in investigating much of the small bowel
- nausea, dyspepsia, epigastric discomfort, fatigue, bloating and weight loss, haemorrhage or obstruction
- Haemorrhage: occult or major bleeding
- palpable abdominal mass, perforation, fistula formation, intussusception, or intraoperative haemorrhage

**Gastrointestinal lymphoma**

- 1 in 4 per cent of all primary gastrointestinal cancers
- 20-30 per cent of lymphoma occur in the stomach, 10-15 per cent in the small intestine
- Present with malabsorption, bleeding, obstruction and weight loss
- 50 per cent duodenum
- Most common in ileum
- Associated with celiac disease, Crohn's disease, HIV/AIDS, immunosuppression
- Increasing diagnosis, systemic medical conditions, chemotherapy
- Treatment usually medical unless surgical complications

Answer: A

## 102. Wrong about cholecystitis:

- A. U/S is the practical diagnostic test
- B. U/S can't differentiate between calculus and acalculus
- C. Ischemia is the cause of calculus cholecystitis (stones)
- D. We use antibiotics in all patients
- E. Emphysematous cholecystitis needs emergent intervention

**Acute cholecystitis**

Caused by obstruction of the cystic duct by a gallstone, leading to inflammation of the gallbladder wall.

Diagnosis: RUQ pain, fever, leukocytosis, Murphy's sign.

Treatment: NPO, IV fluids, antibiotics, cholecystectomy.

**Investigations:**

- Lab:**
  - 1. WBC (but could be normal)
  - 2. Alkaline phosphatase ↑ LFTs, ↑ total bilirubin.
  - 3. Slightly ↑ amylase.
- Imaging:**
  - The diagnostic tool of choice is ultrasound.
  - Findings on ultrasound:
    - Thickened gallbladder wall > 3 mm.
    - Pericholecystic fluid.
    - Distended gallbladder (> 7mm)
    - Gallstones or cystic duct stones.
    - Sonographic Murphy's sign.
  - HIDA scan is the most accurate.
  - CT scan, less sensitive.

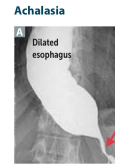
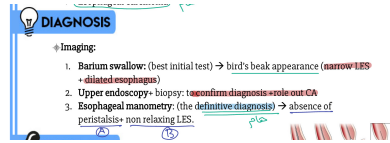
**Acute cholecystitis**

- In Acute cholecystitis → Palpable painful mass.
- In GI cancer → Palpable painless mass.

Answer: C

### 103. The best diagnostic test of achalasia is:

- A. EGD and biopsy
- B. Barium swallow
- C. Manometry**
- D. 24-h pH monitoring



Failure of LES to relax due to degeneration of inhibitory neurons (containing NO and VIP) in the myenteric (Auerbach) plexus of esophageal wall.  
 Achalasia is idiopathic. Achalasia may arise from Chagas disease (T. cruzi infection) or extracerebral malignancies (mass effect or paraneoplastic). Chagas disease can cause achalasia.  
 Presents with progressive dysphagia to solids and liquids (vs obstruction—primarily solids). Associated with 1 risk of esophageal cancer.

Manometry findings include uncoordinated or absent peristalsis with ↑ LES resting pressure. Barium swallow shows dilated esophagus with area of distal stenosis ("bird's beak"). Treatment: surgery, endoscopic procedures (eg, botulinum toxin injection).

Answer: C

### 104. A patient has difficulty in swallowing solid food, what is the diagnostic test?

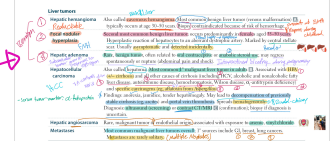
- A. Barium swallow - first step**
- B. Manometry
- C. 24-h pH monitoring
- D. Egd with biopsy

mass  
 بدو الفم الى بطون  
 D الفم الى

Answer: A (also not sure)

### 105. All true about hepatocellular adenoma except:

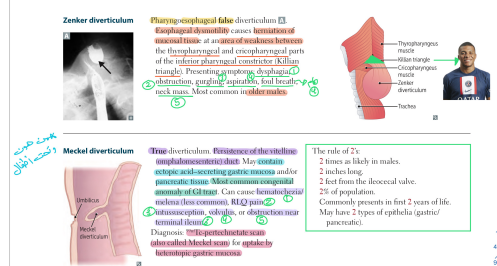
- A. More associated with complications than hemangiomas
- B. Associated with the use of OCP
- C. The mass may regress with pregnancy (wrong, increases with steroid hormones)**
- D. holds the risk of malignant transformation
- E. size of adenoma is an important player in risk assessment



Answer: C

### 106. All are true diverticula except:

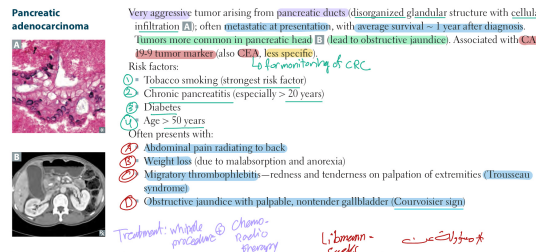
- A. Esophageal traction diverticulum
- B. Secondary duodenal diverticulum
- C. Solitary caecal diverticulum
- D. Meckel's diverticulum
- E. Zenker's diverticulum**



Answer: E

### 107. The highest environmental risk factor for pancreatic cancer is:

- A. Alcohol
- B. Smoking**
- C. Radon exposure
- D. Organophosphorus exposure
- E. High fat diet



Answer: B

### 108. Not an indicative symptom of pancreatic head cancer:

- A. Weight loss
- B. Clay-colored stool
- C. Dark urine
- D. Abdominal pain
- E. Diabetes insipidus (↓ADH), not a true DM

obstruction symptoms

Answer: E



**ax is:**

- B. Fistula in ano  
C. Haemorrhoids  
D. Tumor  
E. Diverticulum



① **acute pain** in the anal region. Pain occurs with sitting or movement and is usually aggravated by defecation and even coughing or sneezing.

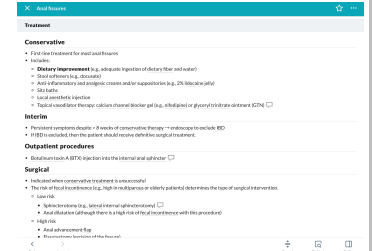
- ② ☐ Swelling
- ③ ☐ purulent anal discharge
- ④ ☐ bleeding
- ⑤ ☐ General symptoms include malaise and pyrexia

- **Tender induration**
- Pus may be seen exuding from a crypt
- Examination under anesthesia is not only justified but also indicated
- **Supralelevator abscess**, a tender mass in the pelvis may be diagnosed by rectal or vaginal examination. Abdominal examination may reveal signs of peritoneal irritation

Answer: A

except:

- A. Lidocaine
- B. Topical calcium channel blocker
- C. Lateral internal sphincterotomy
- D. Glyceryl nitrate
- E. Stool softener



Answer: C

**111. All are true about spleen except:**

- A. It spans intercostals 9-10-11
- B. Palpation started in the right iliac fossa
- C. CML is an established cause of splenomegaly
- D. Most important risk post splenectomy is hemorrhage

① **Vaccinations**

Splenectomy increases the risk for **serious**, including **life-threatening**, infections, especially with **encapsulated organisms** such as *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Neisseria meningitidis*.

A good immune response to most vaccines occurs **within two weeks**. Still ideal timing is **10 to 12 weeks**.

Annual influenza vaccination can reduce **mortality** from secondary bacterial infection.

② **Optimizing haemoglobin and platelet count:**

③ **VTE prophylaxis**

**Splenectomy** carries a **(higher) postoperative VTE risk** than other types of major abdominal surgery ~10%  
*vs in thrombocytopenia*

Answer: D

112. What is the metabolic change associated with excessive vomiting? \*\*\*\*

- ☒ A. Hypochloremic hypokalemic metabolic alkalosis

فقد  
H+  
H+

Answer: A

## 113. One of the following can't be candidate for fundoplication

- A. Young patient
- B. Patient with paraesophageal hernia
- C. Patient with esophageal dysmotility**
- D. Patient with less pressure 8mmhg
- E. Patient with lateral sliding hernia

**Surgical therapy:**

- Indications: failure of medical, hiatal hernia, complications (stricture, recurrent aspiration).

**Surgery mainly reduces GI symptoms.**

- Complications of surgery: Dysphagia and failure are MC. Wrap migration (if onto stomach: slipped Nissen).
- Nissen fundoplication:** laparoscopic. **Complete wrap (360 degrees)** of fundus onto distal esophagus.
- Toupet fundoplication:** 270-degree posterior wrap of fundus. Used if motility issues.
- Dor fundoplication:** 180-degree anterior wrap. Used if motility issues.
- Hiatal repair:** attach stomach and esophagus to median arcuate ligament.

*Handwritten notes:* "partial wrap", "dysphagia", "aspiration", "no surg.", "peristalsis + partial wrap", "aspiration, achalasia, scleroderma -> no surg."

### Surgical:

- Indications for surgery:
  1. Failure of medical treatment.
  2. Respiratory problems.
  3. Severe esophageal injury

Answer: C

## 114. Regarding small intestinal tumors what's wrong :

- A. Celiac disease is associated with SI lymphoma
- B. Crohn's is associated with SI adenocarcinoma
- C. Adenocarcinomas are more common to happen distally**
- D. Segmental resection with regional LN removal is best surgical choice for ileal and jejunal adenocarcinoma
- E. GIST size correlates with the risk of malignancy

Only 1 to 2 per cent of malignant alimentary tumours.

Equal between men and women

100 times less frequent than in the stomach, oesophagus, or colorectum

Benign lesions are more common distal, while Adenocarcinoma is more common proximal.

**Adenocarcinoma**

- Adenocarcinoma accounts for about 50% of small bowel tumours.
- Most common in the distal small bowel (ileum).
- Benign lesions are more common distal, while Adenocarcinoma is more common proximal.
- Segmental resection with regional LN removal is best surgical choice for ileal and jejunal adenocarcinoma.

**Gastrointestinal Stromal Tumours (GIST)**

- Arise from interstitial cells of Cajal.
- Most common mesenchymal tumour of the GI tract.
- Range of malignant. Size increases risk of malignant potential.
- Usually diagnosed followed by endoscopy / gastroscopy.
- 50-70 years of age.

**GIST cont.**

- Lengths: spread to rest of stomach.
- Metastases to liver or peritoneum.
- Prognosis:
  - Size: 5cm or greater and malignant.
  - Location: less than 5cm diameter.
  - Metastases: less than 5cm diameter.

Answer: C

## 115. All of the following are formed by external oblique and its aponeurosis except:

- A. Inguinal (poupart's) ligament
- B. External spermatic fascia
- C. Conjoint tendon**
- D. Superficial ring
- E. Deep ring**

**Conjoint tendon - Wikipedia**

The conjoint tendon is formed from the lower part of the common aponeurosis of the abdominal internal oblique muscle and the transversus abdominis muscle. It...

**transversalis fascia**

The deep ring is formed by the transversalis fascia which provides the posterior covering of the contents of the inguinal ring. The superficial or external ring is the terminal end of the inguinal canal. It is located just superior to the pubic tubercle.

**What makes the external inguinal ring?**

The external inguinal ring is formed by the external oblique aponeurosis. The internal inguinal ring is located in the transversalis fascia and composed of the transversus abdominis and internal oblique muscles. The broad arrow represents the course of the spermatic cord.

Answer: C&E

## 116. Tumor marker of pancreatic CA :

- A. CA 19-9**
- B. CA 15-3
- C. Alpha-FP
- D. hCG
- E. CEA

**Pancreatic adenocarcinoma**

Very aggressive tumor arising from pancreatic ducts (disorganized glandular structure with cellular infiltration). Often metastatic at presentation, with average survival = 1 year after diagnosis.

Tumors more common in pancreatic head (lead to obstructive jaundice). Associated with CA 19-9.

Risk factors:

- 1. Tobacco smoking (strongest risk factor)
- 2. Chronic pancreatitis (especially > 20 years)
- 3. Diabetes
- 4. Age > 50 years

Often presents with:

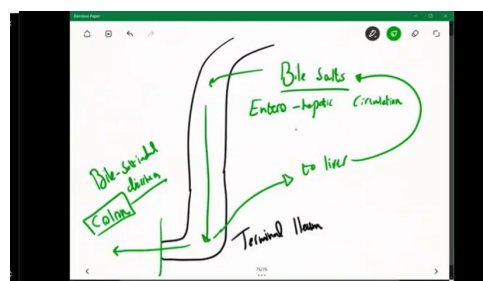
- 1. Abdominal pain radiating to back
- 2. Weight loss (due to malabsorption and anorexia)
- 3. Migratory thrombophlebitis - redness and tenderness on palpation of extremities (Trousseau syndrome)
- 4. Obstructive jaundice with palpable, nontender gallbladder (Courvoisier sign)

Treatment: surgical resection, chemotherapy, radiation therapy.

Answer: A

## 117. Bile salts are maximally absorbed in: \*\*

- A. Duodenum
- B. Jejunum
- C. Ileum**
- D. Right colon
- E. Left colon



Answer: C

118. Patient involved in a road traffic accident, he was showing signs of hemodynamic instability, FAST assessment revealed hypoechoic rim around the spleen, the patient was taken to the operating room and he underwent a splenectomy, all are possible complications post splenectomy except:

- A. Postoperative bleeding
- B. Gastric perforation
- C. Pancreatic fistula
- D. Jaundice**
- E. Pulmonary infection

**Complications of splenic rupture**

- Life-threatening hypovolemic and hemorrhagic shock
- Pancreatic injury (rare)

**Complications of splenectomy**

- Overwhelming post-splenectomy infection (OPSI):** higher incidence of infection (see "infection in asplenic patients" for details)
- Subphrenic abscess:** an accumulation of pus located directly under the diaphragm
- Epidemiology:**
  - Reported in ~2% of patients post abdominal surgery
  - No history of surgery in approx. 10% of patients
  - Etiology: polymicrobial infection (e.g., due to *Enterococcus* spp., *E. coli*, and *Clostridium* spp.) following intraoperative perforation
  - Most commonly a complication of surgery (e.g., splenectomy, gastrectomy) or secondary to conditions such as diverticulitis, duodenal ulcers, and appendicitis
  - Trauma

**Complications**

- Jaundice:**
  - Hyperbilirubinemia (due to bile duct obstruction, capsule tear or injury to a blood vessel)
  - Postoperative jaundice (usually resolving by day 10)
  - Postoperative cholestasis (usually resolving by day 10)
  - Postoperative pancreatitis (usually resolving by day 10)
- Bleeding:**
  - Left hand primary splenic vessels (left placed during surgery)
  - Right hand primary splenic vessels (right placed during surgery)
  - Postoperative bleeding (usually resolving by day 10)
  - Postoperative cholestasis (usually resolving by day 10)
  - Postoperative pancreatitis (usually resolving by day 10)

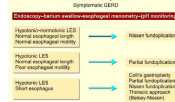
Answer: D

119. Regarding GERD, all of the following are true except:

- A. Triad of heartburn, regurgitation and dysphagia are the usual presentation**
- B. Improvement on PPI is one of the diagnostic criteria
- C. Ambulatory pH monitoring is used to assess GERD in patients with persistent symptoms
- D. Esophageal manometry is used to evaluate esophageal peristalsis before anti-reflux surgery
- E. Lap. nissen fundoplication is indicated for patients with normal length esophagus

*Refractory GERD*

*Fundoplication: you should not have an esophageal dysmotility disorder*



Answer: A

120. Which of the following isn't considered a cause of stress ulcer:

- A. Steroid
- B. Burn
- C. Head injury
- D. IV antibiotics**

**Peptic ulcer disease:**

Peak incidence at 55-65 years of age

Causes: 80% is caused by *H. pylori* infection; more in lower socioeconomic classes. Causes damage to mucosa and increases gastric release. 20% from NSAIDs.

Other RFs: gastrinoma and ZES (can be familial), smoking, alcohol, stress ulcers (usually multiple, superficial, in the fundus from ischemia, high ICP (Cushing), and burns (Curling)).

**Types:**  
Type I: Gastric (70-90% of which) lesser curvature towards antrum. Due to loss of protection (Blood type A).



**Stress ulcers**

Stress ulcers are ulcers associated with severe gastric, i.e., acute damage to the gastric mucosa resulting from increased levels of endogenous glucocorticoids and decreased blood flow to the stomach.

**Etiology (32):**

- Critical illness, such as:
  - Respiratory failure requiring ventilation for > 48 hours
  - Renal failure
  - Hepatic failure
  - Severe head or spinal cord injury
  - Burns affecting surface area > 20% of the body surface area
- Major surgery

**Types**

- Curling ulcer: severe burns → decreased gastric blood flow → hypoxic tissue injury of stomach surface epithelium
- Cushing ulcer: brain injury → increased vagal stimulation → increased production of stomach acid by parietal cells

Answer: D

121. All of the following can be considered as investigations for suspected pancreatitis except:

- A. abdominal U/S
- B. abdominal lavage
- C. abdominal CT
- D. neck U/S**

**Imaging:**

- Abdominal X-ray (AXR):**
  - Calcium (only 10% are radiopaque)
  - Small bowel: Air-filled small bowel in LUQ, no air in colon
  - Calcium: Along ending of transverse colon
- CT scan:**
  - Not routinely indicated for the evaluation of patients during an attack of acute pancreatitis. It has three indications:
    - Patients with pancreatitis, suspected biliary pancreatitis, and possible cholelithiasis who are not clinically improving by 24 hours after admission should undergo endoscopic ultrasound and stone extraction
    - Patients with no identifiable cause to rule out acute common bile duct stones, strictures, or neoplasms
    - Severe pancreatitis: ductal dilatation, such as with traumatic pancreatitis

122. Regarding gallstones, all are correct except:

- A. Black stones occur due to cirrhosis
- B. Brown stones found in bile duct
- C. Primary gallstones occur in one year postcholecystectomy \***
- D. Small stones are associated with increased risk of acute pancreatitis
- E. Large stones are associated with increased risk mirizzi syndrome

**Mirizzi Syndrome:**

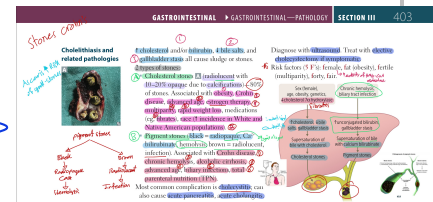
A large stone or multiple small ones cause pressure on GB infundibulum or cystic duct → obstruction → obstructive jaundice and gallbladder formation. The GB and CBD are both obstructed: can cause biliary colic, jaundice, cholecystitis and/or cholangitis.

Classification: Type I (hepatic duct obstruction), Type II (<1/3 of bile duct involved by fistula), type III 1-2/3, and Type IV >2/3.

Treatment: subtotal cholecystectomy (leaving fibrotic GB) with fistula closure (in types II-IV)

**Cholelith Cysts:**

Pericystic inflammation and biliary obstruction



Answer: C

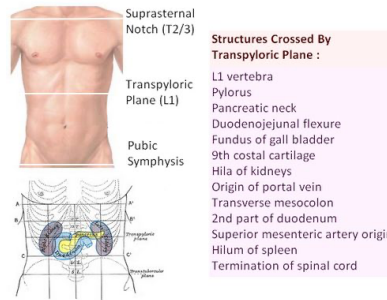




127. All of the following are on the transpyloric plane except:

- A. Fundus of the gallbladder
- B. Termination of the spinal cord
- C. Duodeno-jejunal flexure
- D. Neck of the pancreas
- E. Origin of inferior mesenteric artery

*superior*



Answer: E

128. All are true regarding carcinoids except:

- A. Most common site is the appendix *Ileum*
- B. Ileal carcinoids are rarely multicentric *30-40%*
- C. Usually associated with other tumors of the GI of differing histology
- D. Tumor originates from enterochromaffin cells
- E. Ileal carcinoid follow a more malignant course (more mets) *slow growing & more mets*



**Carcinoid tumours**

- Originate in enterochromaffin cells (argentaffin cells)
- 0.7 per 100 000
- These tumours may occur in the
  - foregut (including the duodenum),
  - midgut (including the jejunum),
  - the hind gut.
- Midgut carcinoids characteristically secrete large amounts of 5-hydroxytryptamine (5-HT; serotonin), whereas foregut carcinoids secrete small amounts of this peptide

Answer: A

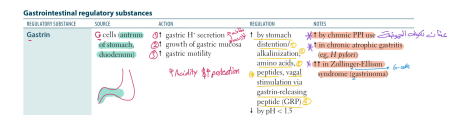
129. Regarding Gastrin all are true except:

- A. Secreted by G cells in antrum
- B. Decreased by PPI (PPI results in hypogastrenemia)
- C. Responsible for gastric phase of acid secretion
- D. Increased in Zollinger-Ellison
- E. When elevated causes gastric carcinoid *عام*



Carcinoid tumours arise from **enterochromaffin cells**, most commonly in the **intestine** or **lung**. Neuroendocrine cells (G cells) which produce **serotonin** (5-HT) and **histamine** (H1) are found in the **stomach**. If 5-HT reaches the systemic circulation (e.g. after liver metastasis), carcinoid tumours may present with **carcinoid syndrome** - flushing, diarrhoea, wheezing, right-sided valvular heart disease (e.g. tricuspid regurgitation, pulmonary stenosis), bronchospasm, hypotension, tachycardia, and weight loss. Treatment: surgical resection, somatostatin analog (e.g. octreotide) or tyrosine kinase inhibitors (e.g. imatinib) for symptom control.

Role of histamine:  
 H1 receptor: stimulates gastric acid secretion  
 H2 receptor: stimulates gastric acid secretion  
 H3 receptor: inhibits gastric acid secretion



Answer: B

130. A patient u/w a GI surgery in which the Ileum was resected, one of the following is affected:

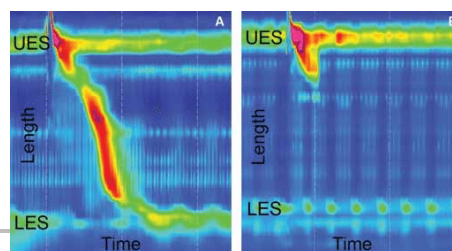
- A. Fe
- B. B12
- C. Calcium
- D. Intrinsic factor
- E. Tryptophan

*كان امتحان B12*

Answer: B

131. Manometry can show all except:

- A. Length of intraabdominal esophagus -length of LES
- B. Pressure in the esophagus
- C. Peristaltic contractions
- D. Degree of gastric reflux



Answer: D

### 132. Wrong about the physiology of pancreas:

- A. Acid in the duodenum and bile secretion stimulates pancreatic secretion ✓
- B. CCK stimulates enzyme release from the pancreas ✓
- C. pancreatic secretions neutralize the acid in duodenum ✓
- D. Amylase is secreted in its active form from the pancreas ✓
- E. Electrolyte and fluids in pancreatic juice are secreted from acinar cells

2. Exocrine cells (Acinar, centroacinar and ductal cells):  
 ➤ Acinar cells: Secrete enzymes (Trypsin, Chymotrypsin, Amylase, Lipase, Carboxypeptidase).  
 ➤ Centroacinar and ductal cells: Secrete water and electrolytes (Na<sup>+</sup>, K<sup>+</sup>, HCO<sub>3</sub><sup>-</sup>, Cl<sup>-</sup>) in response to Secretin stimulation.  
 ➤ Main Investigations:

The pancreatic enzymes (except for lipase and amylase) are secreted in an inactive form (zymogens) until they're activated by enterokinase in the duodenum.  
 Secretin is secreted from the S cells in the duodenum; it's the most potent endogenous stimulator of bicarbonate secretion.

Answer: E

### 133. HCC (hepatocellular carcinoma) all are true except:

- A. It follows geographical distribution of HBV
- B. Increased by Alcohol
- C. Commonly metastasizes to lung, bone and peritoneum
- D. Percutaneous biopsy is done for suspected lesion if operative intervention will be done
- E. Main tumor marker is alpha feto protein

Investigation:  
 1. Tumor marker: increase in  $\alpha$ -feto protein.  
 2. Ultra Sound.  
 3. CT.  
 4. Angiogram.  
 5. Tissue biopsy with CT / Ultra Sound/ or laproscopic guidance (the most common way to diagnose HCC)

Hepatocellular carcinoma  
 Also called (hepatoma) Most common liver tumor in adults. Associated with HBV (type B) and HCV (type C) and other causes of cirrhosis (including alcohol and nonalcoholic fatty liver disease, autoimmune disease, hemochromatosis, Wilson disease,  $\alpha$ -1 antitrypsin deficiency) and specific carcinogens (e.g. aflatoxin from *Aspergillus*).  
 ➤ Predisposing factors, including, include hepatocellular carcinoma. May lead to development of hepatocellular carcinoma (HCC) and portal vein thrombosis. Synthesis of alpha-fetoprotein (AFP) is elevated.  
 Diagnosis: ultrasound screening or contrast CT/MRI (confirmation); biopsy if diagnosis is uncertain.

Answer: D

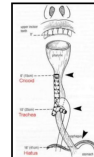
### 134. True about esophagus:

- A. Starts at the upper limit of thyroid cartilage
- B. Starts at c6
- C. 35 cm in length
- D. Infra abdominal part is not covered with peritoneum
- E. Pass the diaphragm at T8

#### Esophagus

➤ Anatomy: The esophagus is a 25 cm-long muscular tube (40 cm from the mouth) that begins at the pharynx (lower border of C6) and ends at the opening of the stomach (cardia). The muscle type varies along the esophagus:

- 1. Upper 1/3 → skeletal muscle.
- 2. Middle 1/3 → mixed (skeletal + smooth).
- 3. Lower 1/3 → smooth muscle.
- There are 3 areas of narrowing:
- 1. At the beginning of the esophagus (caused by the **inferior pharyngeal constrictor muscle (C6)**).
- 2. Where the **left main bronchus** and **aorta cross (T4)**.
- 3. At the **hiatus of the diaphragm**.



- It has a sphincter:
- 1. **Upper esophageal sphincter (UES)**: anatomical sphincter, caused by actual thickening of the muscular wall, its main function is **preventing reflux**.
- 2. **Lower esophageal sphincter (LES)**: functional sphincter, so it's an **area of high pressure**, its main function is **prevention of reflux**.
- Blood supply:
- 1. **Upper 1/3** → **subclavian (thyroid) + anterior intercostal arteries**.
- 2. **Middle 1/3** → **esophageal arteries + bronchial arteries**.
- 3. **Lower 1/3** → **left gastric + left inferior phrenic arteries**.

Answer: B

### 135. All are risk factors for stomach cancer except:

- A. High vegetables and citrus diet
- B. Poor socioeconomic status
- C. H pylori infection
- D. Adenomatous polyps
- E. Foods with high nitrates content

Answer: A

### 136. Wrong about diverticular disease:

- A. Barium is diagnostic in acute diverticulitis
- B. It's not premalignant ✓
- C. Surgery is indicated after the 2<sup>nd</sup> uncomplicated diverticulitis attack ✓
- D. 10-25% of patients will develop diverticulitis
- E. Diverticulosis is the most common cause of lower GI bleeding

Surgery indications:  
 1. After first or any complicated diverticulitis attack  
 2. After 2 or more episodes of uncomplicated  
 (Management is always individualized according to patient, these are general guidelines)

Answer: A

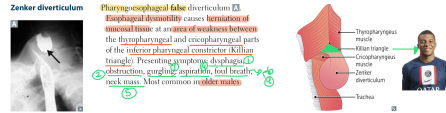
Diagnosis and imaging	Elective resection
<ul style="list-style-type: none"> <li>• <b>CT in rapid</b>, multiple slice scanners capable of variable plane reconstruction became <b>the gold standard</b> in determining the diagnosis and staging of <b>diverticulitis</b>.</li> <li>• Colonic imaging (either colonoscopy or CT colonography) is still performed routinely following an episode of diverticulitis to rule out neoplasia.</li> <li>• Timing and indication of Colonoscopy is questionable.</li> </ul>	<ul style="list-style-type: none"> <li>• Recurrent Diverticulitis ???</li> <li>• The natural history of diverticulitis is such that one in six patients undergo surgery at presentation while approximately 20-25% re-present, with a similar proportion requiring surgery, such that less than 5% have more than two episodes.</li> <li>• Decision of surgery is based on an individualized basis.</li> <li>• Diverticular fistula, diverticular stricture and disease refractory to conservative management.</li> </ul>

**Diverticulitis**  
**INTRODUCTION**  
 Definition: Infection or perforation of a diverticulum.  
 Epidemiology: Occur in 10-25% of patients with diverticula (90% left sided, 10% right).

ذكرت سابقاً

### 137. Wrong about zenker's diverticulum:

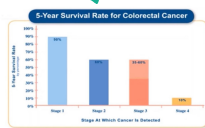
- A. Barium is not diagnostic and esophagoscopy is needed (wrong, we don't do endoscopy in fear of perforation)
- B. Almost all esophageal diverticula are acquired ✓
- C. Treatment is surgical resection ✓
- D. Herniation between the upper oblique and lower transverse muscles of the UES ✓
- E. It presents with difficulty initiating swallowing (transfer dysphagia) and halitosis ✓



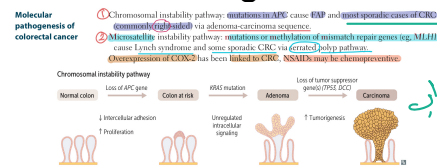
Answer: A

### 138. Wrong about colorectal cancer:

- A. Mutations in tumor suppressor genes or DNA repairing genes are observed in familial colorectal cancer and NOT the sporadic : Both Familial & sporadic
- B. Risk factors concerning life style include: obesity, smoking, high red meat intake
- C. The most common site of hematologic metastasis is the liver
- D. Surgical goal is to achieve a free margin locally, remove local LNs and establish safe anastomosis
- E. 5 years survival rate of patients diagnosed in the first stage is 90%



- Pattern of spread:
  - Direct: circumferentially bowel wall - abdomen
  - Hematogenous: portal system to liver / systemic to the lung
  - Lymphatic: transepithelial and intraluminal
  - Metastasis always to the liver first via portal circulation but if it invades only the rectum it will bypass portal circulation



Answer: A

### 139. All true about pancreatic cysts except:

- A. Solid pseudopapillary occurs in middle aged men and is aggressive → young women
- B. Pancreatic pseudocysts are distinguished from other pancreatic cysts by lack of epithelial lining
- C. Ct scan is the investigation of choice for pancreatic pseudocysts ✓
- D. Pancreatic pseudocysts don't require treatment, in most cases they resolve on their own

➤ Solid pseudopapillary tumor is a low-grade malignant neoplasm of the pancreas of papillary architecture with special histopathological (part-solid, part-cystic) features that typically affect young women.

INTRODUCTION

- Infrequent collection of pancreatic fluid in the pancreas
- Pseudocyst wall contains only the inflammatory response of the surrounding organs
- Types I and II (solid and cystic)
- Types I and II (solid and cystic)
- Types I and II (solid and cystic)



Answer: A

### 140. Wrong about pancreatitis:

- A. Amylase levels does correlate with the severity of the infection → Ranson's criteria
- B. Biliary and alcoholic causes account for 90% of the cases ✓
- C. Pathophysiology includes cell injury that activates neutrophils which in turn activates zymogens of the pancreas by releasing proteolytic enzymes ✓
- D. The cardinal symptom is epigastric abdominal pain radiating to the back ✓
- E. The best test to see in a patient presenting 36 hrs from onset is lipase

Lab:	Amelase is more sensitive, lipase is more specific.
➤ Amylase and lipase levels: this is the typical way to diagnose pancreatitis, amylase level increases then decreases after a few days (so if the patient presented after a few days and amylase level is normal, check for lipase.)	The increase in amylase level is not proportional to the severity of the pancreatitis.
➤ CRP (increase in WBC: 10,000-30,000)	
➤ LFT	

Ranson's criteria (not specific nor sensitive)

Within 1st hours (GALLBLD) (Point for each)	After 4th hours (PANCREAS) (Point for each)
Glu < 80 mg, Age > 55, LDH > 350 U/L, AST > 350 U/L, WBC > 16,000	Ca < 8 mg/dl, Hct < 10%, Gt < 10 mmHg, PO2 < 60 mmHg
	Base deficit > 5 mmol/L, BUN increased > 5 mg/dl, Sequestered fluid > 16 L

Mortality risks:
• Points > 9 risk
• 0-2 > 15%
• 3-4 > 30%
• 5-6 > 40%
• 7-8 > 100%

Answer: A

### 141. Wrong about peritonitis:

- A. Is inflammation of peritoneum
- B. Most common surgical cause is secondary bacterial contamination
- C. Can be septic or aseptic
- D. Primary peritonitis is more common in adults than in children
- E. TB peritonitis can be with or without ascitis

Primary peritonitis	Secondary peritonitis
<ul style="list-style-type: none"> <li>Secondary to the entry of bacteria or viruses into the peritoneum from the gastrointestinal or biliary tract.</li> <li>Caused by:                             <ul style="list-style-type: none"> <li>Perforated DUB</li> <li>Perforated appendix</li> <li>Perforated diverticulum</li> <li>Usually polymicrobial</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Secondary to the entry of bacteria or viruses into the peritoneum from the gastrointestinal or biliary tract.</li> <li>Caused by:                             <ul style="list-style-type: none"> <li>Perforated DUB</li> <li>Perforated appendix</li> <li>Perforated diverticulum</li> <li>Usually polymicrobial</li> </ul> </li> </ul>

Answer: D

↳ To rule out A. fib → Acute mesenteric ischemia

- **Nonocclusive mesenteric ischemia**

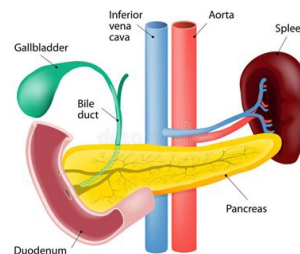
Answer: B

**143. Peutz-jeghers syndrome, which is not true:**

- Peutz-Jeghers syndrome** ①  
Autosomal dominant syndrome featuring numerous hamartomatous polyps throughout GI tract, along with hyperpigmented macules on mouth, lips, hands, genitalia. Associated with ↑ risk of breast and GI cancers (eg, colorectal, stomach, small bowel, pancreatic). ②

Answer: D (hamartomatous)

144. Which of the following touches the hilum of the spleen;



Answer: A

**145. Not dangerous in intestinal obstruction:**

[illegible]

Answer: A

**146. About the esophagus, all are true except :**

◆ **Physiology:** esophagus is a connection canal through which the food pass, it transfers food by **peristalsis**.



Answer: B



147. Rectal prolapse, all are true except:

- A. More common in elderly
- B. More common in females *نساء*
- C. Can be associated with constipation or incontinence
- D. Abdominal operation is associated with higher recurrence rate
- E. Endoscopy should be done for patients

Diagnostics

Definitive diagnosis

- Rectal prolapse is primarily a clinical diagnosis.
- Video defecography *✓* to distinguish full thickness rectal prolapse from mucosal prolapse when the diagnosis is not obvious from clinical examination alone.

Additional tests

- Proctoscopy and/or colonoscopy should be performed prior to any surgical therapy. ☐
- If a rectal ulcer is present: biopsy of the rectal ulcer.
- If fecal incontinence is present: anal sphincter manometry.
- If pelvic floor weakness is suspected: dynamic pelvic floor MRI.
- A sweat chloride test should be performed among children with rectal prolapse to rule out cystic fibrosis.

Answer: E

Final 2012

148. Diagnosis of acute diverticulitis (to exclude it):

- A. U/s
- B. Ct
- C. Colonoscopy
- D. Barium

Answer: B

149. Wrong about anal fissures:

- A. In males, it's most commonly anterior median *posterior*
- B. Multiple fissures are associated with crohn's disease *✓*
- C. Primary fissures underlying pathophysiology is increased internal sphincteric tone *✓*
- D. It's equally prevalent in males and females *✓*

Answer: A

150. Not a risk factor in gastric cancer:

- A. Female sex
- B. Smoking
- C. H. Pylori
- D. You know the rest

Answer: A

151. Most common cause of death in acute pancreatitis:

- A. Hemorrhage
- B. Hypovolemia
- C. Pseudocyst rupture
- D. Infection

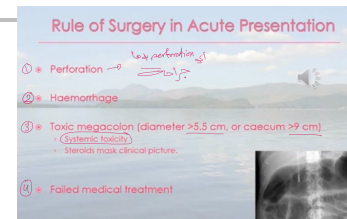
*عنايت هيج أهم خطوة في  
العلاج IV fluids*

Answer: B

**152. Not an indication for surgery in UC:**

- A. Toxic mega colon
- B. Massive gl hemorrhage
- C. Refractory to medical
- D. Responsive to medical but persisted more than 7 years.

Answer: D



### 153. Most common extraintestinal in crohn's:

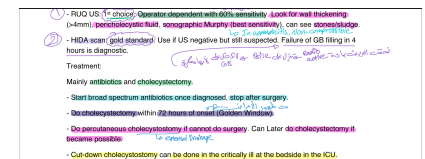
- A. Ankylosing spondylitis  
B. Arthritis \*  
C. Erythema nodosum  
D. Iritis

arthritis, or inflammation of the joints, is the most common extraintestinal complication of IBD.

Answer: B (not sure)

**154. Wrong about acute cholecystitis:**

- A. Open cholecystectomy is the 1st line of treatment
  - B. Physical examination shows positive murphy's sign ✓
  - C. U/S is the diagnostic tool of choice ✓
  - D. IV antibiotics are given to all patients ✓
- Definitive management [2534242304]



Definitive management [25][24][23][24]

The initial procedure and duration of antibiotic therapy depend on severity grading of acute cholecystitis, patient's individual surgical risk, and presence of

- Laparoscopic cholecystectomy

- Preferred approach if expertise is available
- Perform as soon as possible, unless operative and anesthesia risks outweigh the benefits of urgent surgery
- Conversion to open cholecystectomy may be required depending on intraoperative findings [22]

Answer: A

**155. Regarding esophageal cancer, which is wrong:**

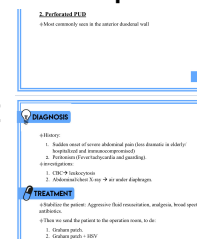
- A. Around 80% present with dysphagia
- B. Dysphagia causes weight loss
- C. All adult pts with dysphasia should undergo esophugscopy to rule out malignancy
- D. Screening for esophageal cancer in jordan, is not cost effective

Answer: D (maybe)

Symptoms	Number Pts (%)
Dysphagia	259 (83)
Weight loss	179 (58)
Abdominal pain	27(9)
Chest pain	21 (7)
GI bleed	20 (6.5)
GERD	17 (5.5)
Nausea/vomiting	16 (5)
Hearselessness	6 (2)
Fatigue	5 (1)
Back pain	4 (1)
Neck pain or mass	3 (1)
Early satiety	2(<1)
Hiccups	2(<1)
Hemoptysis	1 (<1)
Barrett's surveillance	1 (1)

### 156. PUD perforation, which is Wrong:

- A. Mostly in the ant. Wall of duodenum ✓
- B. Massively bleeding ulcers are most common to be on the posterior wall of the duodenum ✓ *Rec. of Gastric duodenal Art.*
- C. 20% present with pneumoperitoneum
- D. Omental patching is an effective surgical treatment
- Early satiety  
Hiccups  
Hemoptysis  
Barrett's surveillance
- 2 (<1)  
2 (<1)  
1 (<1)  
1 (1)
- 2-Perforated PUD
- (Most commonly seen in the anterior duodenal wall)
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Answer: C

157. Regarding FAP, which is wrong:

- A. Polyps are adenomatous
- B. All patient will have cancer at some point
- C. Autosomal dominant, APC gene on chromosome five mutation
- D. Clinically present in teens**
- E. Mostly the surgery is, colectomy with ileorectalanastomosis

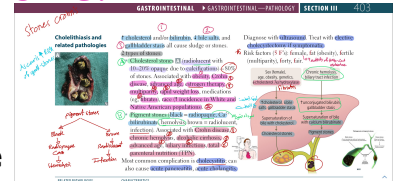
- **Intestinal manifestations**

- Polyps develop in the second/third decade of life but patients are usually asymptomatic until symptoms of colon cancer develop.
- Lifetime colorectal cancer risk: 100% (onset typically occurs at 35–40 years of age) [8]
- Increased risk of gastric and pancreatic cancer [10]

Answer: D

158. About black pigmented gall bladder stones, which is **WRONG**:

- A. Associated with hemolysis
- B. Associated with cirrhosis
- ☒ C. Associated with infected bile : *Brown*
- D. Contain mainly calcium carbonate and less calcium palmitate



Answer: C

159. Obstructive jaundice, all are true except:

- A. High Bilirubin in urine
- ☒ B. High urobilinogen in urine (remember: urobilinogen is TRANSPARENT)
- C. Normal AST
- D. High ALP

*↑ urobilin*

Answer: B

160. Not a stimuli for visceral pain:

- A. Infarction
- B. Inflammation
- ☒ C. Heat
- D. Stretch
- E. Distention

*Heat*

Answer: C

161. A 60 y/o female patient with known history of HTN and A.fib presented to the ED with acute generalized abdominal pain that isn't backed up by the physical findings on her abdomen, what would be top on your Ddx list?

- ☒ A. Acute embolic mesenteric Ischemia (emboli are migrating thrombi)
- B. Chronic mesenteric Ischemia
- C. Acute thrombotic mesenteric Ischemia
- D. Acute pancreatitis

Answer: A

## Miscellaneous +6<sup>TH</sup> YEAR

162. Patient with obstructive jaundice, initial diagnostic step:

- ☒ A. U/S
- B. ERCP → *Definitive*
- C. MRCP
- D. PTC

Answer: A

163. All of the following are causes of conjugated hyperbilirubinemia except:

- A. Hemolysis *indirect*
- B. Obstructive CBD stone
- C. Biliary stricture
- D. Pancreatic head tumor

Answer: A

164. Wrong about ERCP:

- A. 1/3 of patients get pancreatitis ✓
- B. It's a diagnostic and therapeutic procedure ✓
- C. Could be used to perform stone extractions ✓
- D. Can be used for biliary stenting ✓

Answer: A (only 3-10%)

165. Crohn's disease associated fistula all are true except:

- A. colovesical is associated with acute UTI caused by single organism
- B. colovesical is associated with pneumaturia ✓
- C. colointestinal may be asymptomatic ✓
- D. colovaginal associated with feces and flatus through vagina ✓
- E. colocutaneous associated with secretion to the skin ✓

*polyorganisms*  
(when the mode of spread is by blood → single)

Answer: A

166. Hydatid cyst indication for surgery include all of the following except: \*\*

- A. >10cm
- B. Infected cyst
- C. Calcified cyst
- D. Open to biliary tree with no symptoms
- E. Open to biliary tree with symptoms

Indications of medical treatment:

- ▲ Inoperable or unfit patient.
- ▲ patients with multiple cysts in more than 2 organs
- ▲ Multiple small liver cyst or cysts deep in the liver.
- ▲ Peritoneal cyst.
- ▲ Patients following incomplete surgery or relapses.
- ▲ Prevention of secondary of echinococcal infection following percutaneous rupture or aspiration of the cyst.

Indications: *if surgery*

1. Superficial cyst with risk of rupture
2. Large cyst >10 cm with many daughter cysts
3. Cystobiliary communication
4. Mass effect on vital organs
5. Infected cyst
6. Any extrahepatic localized cyst

Answer: C

167. All are true about GIT lymphoma except:

- A. Gastric lymphoma is the most common extra nodal site
- B. Burkitt's presentation is usually bleeding from proximal jejunum
- C. H.pylori associated with MALT ✓
- D. Celiac associated with T lymphoma ✓
- E. Surgical excision of stomach is reserved for those with perforation and bleeding

**CLINICAL FEATURES**

- ▲ Gastric lymphoma:
  - ▲ The stomach is the most common site of GI lymphoma.
  - ▲ Most common site → distal stomach.
  - ▲ Associated with H. Pylori infection.
  - ▲ H. Pylori infection is also a risk factor.
  - ▲ Most common type → diffuse large B-Cell lymphoma.
  - ▲ Symptoms are similar to Gastric adenocarcinoma.
- ▲ Small intestinal lymphoma:
  - ▲ Second most common site.
  - ▲ Intestinal lymphoma distribution.
  - ▲ Presentation depends on the site, and may present as intestinal obstruction.
  - ▲ Will be discussed later.

**Gastrointestinal lymphoma**

- 1 to 4 per cent of all primary gastrointestinal cancers
- 50 to 55 per cent of lymphomas occur in the stomach, 50 to 60 per cent in the small bowel
- Present with obstruction, bleeding, cramps and weight loss
- 2nd and 6th decade
- Most common is B-cell
- Increase incidence in patients with chronic atrophic gastritis (H. pylori, MALT)
- Worsening diarrhea, pyrexia, and local obstructive symptoms.
- Treatment is usually medical unless surgical complication.

Answer: B

168. All increase gastrin secretion except:

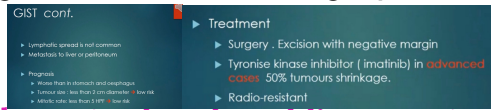
- A. Antrectomy
- B. Vagotomy
- C. Z-E syndrome
- D. Atrophic gastritis
- E. Achlorhydria

GASTROINTESTINAL—PHYSIOLOGY				
Gastrointestinal regulatory substances				
REGULATORY SUBSTANCE	SOURCE	ACTION	REGULATION	NOTES
Gastrin	G cells (antrum of stomach, duodenum)	1. ↑ gastric H <sup>+</sup> secretion 2. ↑ growth of gastric mucosa 3. ↑ gastric motility 4. ↑ Acidity & protection	1. by stomach distention/alkalinization 2. amino acids 3. peptides, vagal stimulation via gastrin-releasing peptide (GRP) 4. by pH < 1.5	1. ↓ by chronic PPI use 2. ↑ in chronic atrophic gastritis (eg. H pylori) 3. ↑ in Zollinger-Ellison syndrome (gastrinoma) 4. ↓ in atrophic gastritis

Answer: A

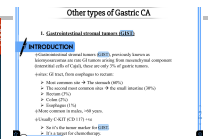
## 169. About GIST, which of the following is wrong:

- A. Stomach is most common site
- B. Most common site is the antrum** *فند*
- C. Better prognosis in stomach than small intestine
- D. Surgical resection when size >2 cm
- E. Large size tumor and high proliferation index have relative risk of malignancy



### Gastrointestinal Stromal Tumours (GIST)

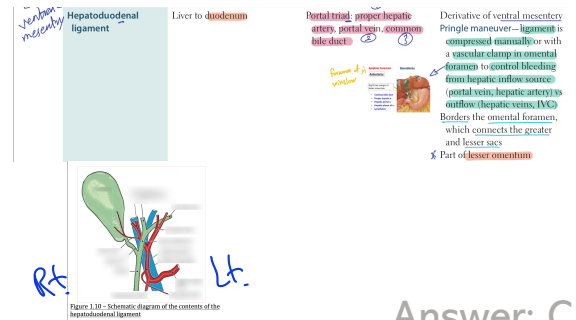
- ▶ Arise from Connective tissue cells
- ▶ Most common mesenchymal tumour of the GI Tract.
- ▶ Benign or malignant. Size increase risk of malignant potential.
- ▶ Usually stomach followed by small bowel (jejunum > ileum)
- ▶ 50-70 years of age.



Answer: B (fundus)

## 170. The hepatoduodenal ligament contain the common bile duct (CBD), hepatic artery and the portal vein in which of the following arrangement:\*\*

- A. Artery right of CBD and vein posterior.
- B. Artery right of vein and CBD posterior.
- C. CBD right of artery and vein posterior.**
- D. CBD right of vein and artery posterior.
- E. Portal vein right of artery and CBD posterior.



Answer: C

## 171. All of the following statements about hemorrhoids are true, EXCEPT: \*\*

- A. Hemorrhoids are specialized "cushions" present in everyone that aid continence.
- B. External hemorrhoids are covered by skin whereas internal hemorrhoids are covered by mucosa.
- C. Pain is the most common presentation.** *ألم*
- D. Hemorrhoidectomy is reserved for third and fourth degree hemorrhoids.
- E. Peak incidence is in the 50-60 years of age.

### Treatment in general

- Medical; 1<sup>st</sup> and 2<sup>nd</sup> degree
- Minor procedures; failed medical Rx 1<sup>st</sup> and 2<sup>nd</sup> degree, some 3<sup>rd</sup> degree
- Surgery; 3<sup>rd</sup> and 4<sup>th</sup> degree

### CLINICAL FEATURES

- Signs & Symptoms:
  - ▶ Painless bleeding (usually fresh blood) - Major symptom (not spontaneous, but is characterized by defecation). The patient complains of blood dripping or spitting into the toilet bowl. The bleeding always occurs with defecation, which is often, or greater positive result.
  - ▶ Prolapsed hemorrhoids (hemorrhoids are protruded when they are complicated e.g. inflamed or thrombosed).

### Anatomy

- Hemorrhoids are not varicose veins.
- everyone has anal cushions. The anal cushions are composed of blood vessels (erectile tissue), smooth muscle (Treitz's muscle), and elastic connective tissue in the submucosa.
- They are located in the upper anal canal, from the dentate line to the anorectal ring.

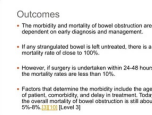
### PREVALENCE

- prevalence rate of 4.4%.
- peak between age 45 and 65 years
- Hemorrhoidectomies are performed 1.3 times more commonly in males than in females

Answer: C

## 172. Regarding abdominal wall hernias:

- A. Are 2nd to adhesions as a cause of strangulated intestinal obstruction
- B. 20% of inguinal hernias are indirect
- C. In women inguinal hernias are less common than femoral hernias *أكثر*
- D. The mortality associated with bowel strangulation is over 10%** *100%*
- E. Trial reduction of pediatric inguinal hernias is not recommended



Answer: D

## 173. Regarding the pathology of ulcerative colitis, one is TRUE:

- A. Is characterized by mesenteric creeping *أ*
- B. The rectum is rarely involved *أ*
- C. 10% patients have terminal ileal disease**
- D. Enterocutaneous or intestinal fistulae are common *أ (more in Crohn's)*
- E. Pseudopolyps are premalignant

Answer: C



## 174. Familial adenomatous polyposis, one is TRUE:

- A. Is inherited as an autosomal recessive condition ✗
- B. Is characterized by polyp formation in late adulthood *early*
- C. Is best treated by total proctocolectomy and ileal pouch construction
- D. Is due to a mutation on the short arm of chromosome 15 *5*
- E. Malignant transformation occurs in 75% of untreated patients *100%*

Answer: C

## 175. Regarding colonic polyps, one is TRUE:

- A. Hyperplastic polyps are usually large sessile polyps ( $>2$  cm) *2 > 2 cm*
- B. Adenomatous polyps are most commonly sessile *pedunculated*
- C. Villous adenomas are more common than tubular adenomas *normal mucosa*
- D. Genetic mutations can result in epithelial metaplasia *Dysplasia*
- E. Almost all carcinomas arise in pre-existing adenomatous polyps

What does it mean when a polyp is sessile?  
Sessile polyps grow without the normal stalk and so fit against the wall of the colon. These are also known as flat polyps. "Sessile" means that they don't have a stalk. It's possible for a large, protruding polyp to have a sessile base.

**Adenomatous**  
Adenomatous polyps are the most common type of polyp found in the colon. They are characterized by the presence of abnormal cells that can lead to cancer if not removed. They are often found in the large intestine and can range in size from a few millimeters to several centimeters. They are usually found in the sigmoid colon and rectum.

**Neoplastic Colon Polyps: Adenomas**  
Adenomas are the most common type of polyp found in the colon. They are characterized by the presence of abnormal cells that can lead to cancer if not removed. They are often found in the large intestine and can range in size from a few millimeters to several centimeters. They are usually found in the sigmoid colon and rectum.

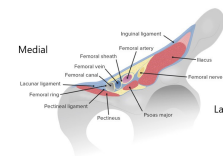
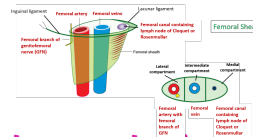
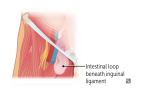
Answer: E

## 176. Regarding the femoral canal, all of the following statements are true EXCEPT:

- A. Lies medial to the femoral vein
- B. Has the inguinal ligament as its anterior border
- C. Has the lacunar ligament as its lateral border *medial*
- D. Has the pectineal ligament as its posterior border
- E. Contains the lymph node of Cloquet

Femoral hernia

Protrudes below inguinal ligament through femoral canal below, and lateral to pubic tubercle. More common in females, but overall inguinal hernias are the most common. More likely to present with incarceration and strangulation in inguinal hernia.



Answer: C

## 177. Which of the following organisms is not a gastrointestinal source of peritonitis?

- A. Bacteroids
- B. Chlamydia
- C. Escherichia coli
- D. Clostridium
- E. Streptococci

GIT Microflora	
Stomach	
• Helicobacter	
• Streptococcus	
• Lactobacillus	
• Small intestine	
• Aerobes	
• Streptococcus and Enterobacteriaceae	
• Lactobacillus, Bifidobacterium	
• Clostridia	
• Bacteroides	
• Clostridium	

Answer: they chose B but I believe it's C

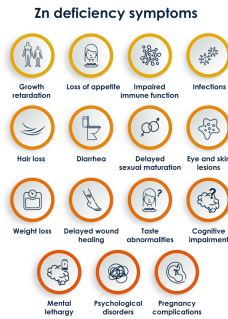
## 178. All of the followings are true about bariatric operations, EXCEPT:

- A. Laparoscopic gastric bypass (LGBP) is a good option for sweet eater patients. ✓
- B. The main factor for weight reduction in standard LGBP is restrictive not malabsorptive. *13 years (Roux-en-Y)*
- C. The ideal procedure for pediatric age group is laparoscopic adjustable gastric band (LAGB). ✓
- D. Laparoscopic sleeve gastrectomy (LSG) is associated with decrease in hunger hormone. ✓
- E. Laparoscopic gastric plication is associated with high failure rate. ✓

Answer: B

179. A 60-year-old TPN-dependent male with short gut syndrome and diarrhea presents with non-healing leg wound. Which trace element he may need supplementation with?

- A. Manganese.
- B. Fluorine.
- C. Selenium.
- D. Copper.
- ☒ E. Zinc.



Answer: E

180. With regard to gall bladder stones (GBS), all of the following statements are true, EXCEPT:

- A. Pure cholesterol stones are usually solitary
- B. Black pigmented stones occurs mostly in the gall bladder
- ☒ C. The main component of brown pigmented stones is calcium bilirubinate
- D. Black pigmented stones is associated with hemolysis
- E. Brown pigmented stones is related to biliary tract infection

**Types of stones:**

- **Mixed (82% of stones):**
  - ▲ The most common type of gallstones.
  - ▲ Content: cholesterol (more than 50-60%).
  - ▲ Various shapes and sizes.
  - ▲ Usually small, multiple stones of faceted surface.
  - ▲ Radiolucent.
- **Pure cholesterol (10% of stones):**
  - ▲ Content: cholesterol (100%).
  - ▲ Pale yellow.
  - ▲ Usually large and solitary.
  - ▲ Radiolucent.
- **Pigmented (10% of stones):**
  - ▲ Cholesterol content less than 20% of their weight.
  - **Black stones:**
    - ▲ Cause: hemolysis (any hemolytic disease is a risk factor).
    - ▲ Content: mostly Calcium bilirubinate.
    - ▲ Homogeneous, brittle.
    - ▲ Small, multiple stones.
    - ▲ Radiopaque 75%.
  - **Brown stones:**
    - ▲ Cause: after biliary infection (most common causative organism is Klebsiella).
    - ▲ Content: mainly calcium palmitate.
    - ▲ Small, multiple, soft stones.
    - ▲ Radiolucent.

Answer: C

181. Metastatic disease to the stomach can occur with the following tumors. Which one is the most common?

- A. Melanoma
- ☒ B. Breast cancer
- C. Testicular cancer
- D. Colon cancer
- E. Prostate cancer



breast  
stomach

Answer: B

182. Which of the following environmental risk factors contributes most to the pathogenesis of pancreatic cancer?

- A. Alcohol use
- B. Chronic steroid use
- C. High dietary fat intake
- D. Radon exposure
- ☒ E. Tobacco use



Answer: E

183. year old male patient presented to the accident and emergency department with painful groin swelling that was reducible before. Exam showed stable vital signs. His abdominal exam was unremarkable apart from a tender swelling at the right groin and absent cough impulse. The most appropriate next step in his management is:

- A. CT scan to look for the cause of this swelling
- B. Start IV antibiotics and Observe in surgical ward for 8 hours
- C. Apply a truss gently and observe
- D. Arrange for Ultrasound scan
- E. Arrange for exploration

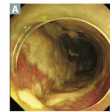
Hx & Px Inguinal hernia جرح على

Answer: E

184. All of the following are risk factors for developing clostridium difficile colitis, except.

- A. Prolonged intravenous antibiotics
- B. Contraceptive pills
- C. Mal-nutrition
- D. Steroids
- E. Proton pump inhibitor

Clostridioides difficile



Produces toxins A and B, which damage enterocytes. Both toxins lead to watery diarrhea → pseudomembranous colitis. Often 2° to antibiotic use, especially clindamycin, ampicillin, cephalosporins, fluoroquinolones; associated with PPIs. Fulminant infection: toxic megacolon, ileus, shock.

Difficile causes diarrhea. Diagnosed by PCR or antigen detection of one or both toxins in stool. Treatment: oral vancomycin or fidaxomicin. For recurrent cases, consider repeating prior regimen or fecal microbiota transplant.

Answer: B

185. All of the following are indications for postoperative chemotherapy after anterior resection for upper rectal adenocarcinoma EXCEPT:

- A. Node positive
- B. Lympho-vascular invasion
- C. T4 stage
- D. Tumour size above 3 cm
- E. Bi-lobar liver metastasis

بعد الجراحة الهدف من metastasis

Answer: D

A 43-year-old man is admitted following an RTA, he is found in respiratory distress, he is intubated and ambubag ventilated, the anesthetist tells you that he exercises a lot of pressure to ventilate the patient, there is reduced air entry to the left side of the chest and the trachea is shifted to the right side. Which of the following is the most appropriate management option in this patient?

- A. A chest X-ray.
- B. A CT thorax.
- C. Needle decompression of the left side of the chest.
- D. Insert a chest drain.
- E. Mechanical ventilation with PEEP.

pneumothorax

BTW, THIS IS NOT GI :D

Answer: C

186. The best medical treatment for hydatid disease is:

- A. Mebendazole
- B. Albendazole**
- C. Ketoconazole
- D. Metronidazole
- E. Steroids

**TREATMENT**

1. Chemotherapy:

- Alone is not useful, so it should be combined with other modalities of treatment.
- Albendazole (ABZ) and ABZ sulfoxide (the active metabolite) are the most effective adjuvant chemotherapy.

Answer: B

187. All of the following are associated with increased likelihood of surgical site of infection after major elective surgery, EXCEPT:

- A. Age over 70 years.
- B. Chronic malnutrition.
- C. Controlled diabetes mellitus.**
- D. Long-term steroid use.
- E. Infection at a remote body site.

**SSI – Risk Factors**  
Patient Characteristics

- Age
- Diabetes
  - HbA<sub>1c</sub> and SSI
  - Glucose > 200 mg/dL postoperative period (<48 hours)
- Nicotine use: delays primary wound healing
- Steroid use: controversial
- Malnutrition: no epidemiological association
- Obesity: 20% over ideal body weight
- Prolonged preoperative stay: surrogate of the severity of illness and comorbid conditions
- Preoperative nares colonization with *Staphylococcus aureus*: significant association
- Perioperative transfusion: controversial
- Coexistent infections at a remote body site
- Altered immune response

Answer: C

188. Regarding sigmoid volvulus, all of the following statements are true EXCEPT:

- A. Sigmoid colon is the most common site of volvulus in the gastrointestinal tract. ✓
- B. Suggested pathogenesis includes a redundant sigmoid colon that has a narrow mesenteric attachment and the presence of colonic dysmotility.
- C. Abdominal CT can be done to establish the diagnosis of sigmoid volvulus and to rule out other causes of abdominal pain and intestinal obstruction.
- D. Immediate laparotomy is done in patients with signs and symptoms suggestive of bowel necrosis.
- E. Surgery is not recommended after successful endoscopic detorsion.**



**DIAGNOSIS**

- Sigmoidoscopy or radiographic exam
  - Distended S-shaped, dilated loop of sigmoid colon, closed sigmoid valve, haustra, with haustra lying along right upper quadrant
  - With paralytic ileus of sigmoidoscopy and plain film (flat film) in confirm diagnosis. Thick wall and haustra may suggest necrosis

**TREATMENT**

- Initially – nonoperative:
  - If there is no strangulation → sigmoidoscopic reduction is successful in approx. 80% of cases (intestine will reduce only 25%, recurrence is approx. 40%–70%)
  - Indications of surgery (reversal): if strangulation is suspected / unsuccessful reduction
- Most patients undergo resection after successful non-operative reduction due to high recurrence rate (>60%)

Answer: E

189. All of the following statements are true regarding colonic polyp EXCEPT:

- A. Hyperplastic polyps are the most common non-neoplastic polyps in the colon.
- B. Villous histology, increasing polyp size, and high-grade dysplasia are risk factors for focal cancer within an adenoma.
- C. Distal small hyperplastic polyps rarely, if ever, develop into colorectal cancers.
- D. Hamartomatous polyps are polyps that are made up of tissue elements normally found at that site, but which are growing in a disorganized mass.
- E. Aspirin increases the incidence of metachronous adenomas and probably cancer.**



Aspirin decreases the incidence of metachronous adenomas and probably cancer.

Answer: E

190. A 34 years old lady presented with RUQ pain. She has been on oral contraceptive pills for 10 years. CT abdomen shows a 4 cm hypervascular lesion in the right lobe of the liver. The most likely diagnosis is:

- A. Hepatocellular carcinoma
- B. Focal nodular hyperplasia
- C. Cholangiocarcinoma
- D. Adenoma**
- E. Metastatic breast carcinoma

**L 26 Hepatic adenoma**

Rare, benign tumor, often related to oral contraceptive or anabolic steroid use; may regress spontaneously or rupture (abdominal pain and shock). *Interventive bleeding during pregnancy*

Answer: D

## ☆☆

- 
- A diagram illustrating the anatomy of the inguinal canal. A green line represents the inguinal ligament, extending from the anterior superior iliac spine (ASIS) down to the pubic tubercle. A black dot on the ligament is labeled 'mid-inguinal point'. The inguinal canal is shown as a dashed red line passing through the abdominal wall. Labels include: 'Linea alba' at the top right, 'Deep inguinal ring' at the top left, 'Inguinal canal' in the middle, 'Superficial inguinal ring' at the bottom left, 'Pubic tubercle' at the bottom, and 'Pubic crest' at the very bottom. A measurement of '1.2 cm' is indicated between the mid-inguinal point and the superficial inguinal ring.

✓ Clean  
Surgery  
(no perforation)

بدون نقل ال surgical complication عن طريق

- 1st generation (cefazolin, cephalexin)—gram  $\oplus$  cocci, *Proteus mirabilis*, *E coli*, *Klebsiella pneumoniae*. Cefazolin used prior to surgery to prevent *S aureus* wound infections.

Cefazoline ← S aureus wound infections complications

ISC  
Pen

**Genetic response**  
**Cancer**

Genes are heritable units, with 20,000 genes

Hendriksen 2020, O'Brien et al. 2019

RNA processing  
RNA stability

Protein processing  
Protein stability

Affects disease

Protein

Cellular homeostasis, growth, and death

[illegible]

- Answer: E

فتح البطن استقصائي

(Exploratory laparotomy)

تصليق أو فتح البطن الاستقصائي هي عملية جراحية بطن مفتوح فيها البطن لتفحص الأعضاء، والأشياء، على نطاق واسع أو أصغر أو مرض. هو إجراء الجراحية في مختلف حالات اعتماد الحاجة للعلاج الفوري أو لا تكون فيها إصابات خطيرة للغاية وحالات (ميكسيدا)

Exploratory laparotomy is surgery to open up the belly area (abdomen). This surgery is done to find the cause of problems (such as pain or bleeding) that testing could not diagnose. It's also used when an abdominal injury needs emergency medical care.

[Exploratory laparotomy | Saint Luke's Health System](https://www.healthline.com/health/exploratory-laparotomy)



196. The most common neuroendocrine tumor of the pancreas is:

- A. Insulinoma
- B. Glucagonoma
- C. Gastrinoma
- D. VIPoma
- E. Somatostatinoma

Pancreatic islet cell tumors	
Insulinoma	Tumor of pancreatic $\beta$ cells $\rightarrow$ overproduction of insulin $\rightarrow$ hypoglycemia May see Whipple triad: low blood glucose, symptoms of hypoglycemia (e.g. tachycardia, sweating, diplopia), and resolution of symptoms after normalization of plasma glucose levels. Symptomatic patients have 1 blood glucose and 1 C-peptide levels (vs exogenous insulin use) - 100% of cases associated with MEN1 syndrome Treatment: surgical resection, not acarbose
Glucagonoma	Tumor of pancreatic $\alpha$ cells $\rightarrow$ overproduction of glucagon Presents with 6 D's: dermatitis necrolytic migratory erythema, diabetes (hyperglycemia), DVT, declining weight, depression, diarrhea Treatment: surgical resection
Somatostatinoma	Tumor of pancreatic $\delta$ cells $\rightarrow$ overproduction of somatostatin $\rightarrow$ inhibition of secretion: cholecystokinin, glucagon, gastrin, gastric inhibitory peptide (GIP) May present with diabetes, hypoglycemia, acromegaly, gallstones, achalasia Treatment: surgical resection, somatostatin analogs (e.g. octreotide) for symptom control

Answer: A

197. The most common arrhythmia seen during laparoscopy is: (General)

- A. Sinus bradycardia. (peritoneal traction)
- B. Sinus tachycardia.
- C. Premature ventricular contraction.
- D. Atrial fibrillation.
- E. Ventricular tachycardia.

تباطؤ

Answer: A

198. All of the following statements about diagnostic studies for the colon and rectum are true, EXCEPT:

- A. Acetylcholinesterase staining of rectal biopsies is unreliable for the diagnosis of Hirschsprung's disease.
- B. Defecography is useful for detecting "hidden" prolapse or rectal intussusception.
- C. A negative osmotic gap in stool is indicative of secretory diarrhea.
- D. A colonic transit time study involves serial abdominal x-rays after ingestion of radiopaque markers.
- E. Carcinoembryonic antigen (CEA) is useful for monitoring patients after resection for colon cancer.

Definitive diagnosis  
Rectal biopsy is primarily a clinical diagnosis.  
Video defecography to distinguish full thickness rectal prolapse from mucosal prolapse when the diagnosis is not obvious from clinical examination alone

Radiopaque marker study  
A study conducted to assess colonic motility (e.g., to evaluate patients with chronic constipation or diarrhea). The patient swallows a series of radiopaque beads, and serial x-rays are obtained until all markers have been expelled.

	Low stool osmotic gap	High stool osmotic gap
Osmotic gap	$< 50$ mmol/L	$> 100$ mmol/L
Interpretation	Secretory diarrhea (1 secretion and/or inhibition of water absorption) or functional diarrhea (increased intestinal movement)	Osmotic diarrhea (osmotic pull of ingested substances draws water into the intestinal lumen)
Example causes	• Foodborne infections (e.g., Vibrio cholerae, enterotoxigenic E. coli) • Endocrine tumors (e.g., VIPoma, medullary carcinoma of the thyroid, gastrinoma) • Impaired absorption of bile acids and/or salts (bile acid diarrhea)	• Osmotic laxative ingestion (e.g., magnesium citrate) • Malabsorption (e.g., celiac disease, Whipple disease) • Pancreatic insufficiency



Hirschsprung disease  
Congenital megacolon characterized by lack of ganglia in the distal colon and rectum. Associated with Down syndrome and other chromosomal abnormalities. Due to failure of neural crest cell migration. Associated with loss of function mutations in the *RET* gene.  
Presents with high anorectal dilatation and failure to pass meconium within 48 hours  $\rightarrow$  chronic constipation.  
Normal pattern of disordered peristalsis in the aganglionic segment is absent, resulting in the "functional obstruction".

High stool osmotic gap  
Congestive heart failure  
Diagnosis requires a high degree of suspicion. Associated with chronic constipation and abdominal distension. Associated with chronic constipation and abdominal distension. Associated with chronic constipation and abdominal distension.

Answer: A

199. Regarding the intestinal type of gastric cancer according to Lauren, all the following statements are true EXCEPT:

- A. Dominant type in areas in which gastric cancer is epidemic.
- B. Associated with blood type A and familial cases suggesting genetic etiology
- C. More common in men
- D. Typically arises in the presence of a precancerous condition gastric atrophy or intestinal metaplasia.
- E. Usually well differentiated and spread haematogenously to distant organs

Japan/Asia

Group A with Diffuse

1. Diffuse type (LST)  
• Arise from gastric pits (not glands)  
• More common in proximal part of the stomach (especially the cardia). Not well differentiated.  
• Associated with intestinal metaplasia with loss of mucin of the gastric pits (loss of mucin).  
• Loss of mucin is associated with loss of mucin.  
• Loss of mucin is associated with loss of mucin.  
• Loss of mucin is associated with loss of mucin.

2. Intestinal type (LST)  
• Arise from gastric glands  
• More common in distal part of the stomach  
• Associated with intestinal metaplasia and other precancerous conditions.  
• Spread by lymphatic and vascular.

white diffuse  $\rightarrow$  Lymphatic

Answer: B

200. The most common malignant tumor of the liver is:

- A. Angiosarcoma.
- B. Lymphomas.
- C. Cholangiocarcinoma.
- D. Metastatic deposits.
- E. Hepatocellular carcinoma. (most common primary liver neoplasm)

Metastases  
Most common malignant liver tumors overall: 1° sources include GI, breast, lung cancers.  
Metastases are rarely solitary. (multiple nodules)

Answer: D

## 201. One of the following is correct about groin hernia:

- A. Femoral hernia is more common in males. *♀ Females*
- B. The inguinal hernia appears medial and below to the pubic tubercle. *Lateral & above*
- C. Direct inguinal hernia is lateral to the inferior epigastric artery. *(medial)*
- D. Hernioplasty is the surgical treatment for inguinal hernia in adult men.**
- E. The risk of strangulation is more common in inguinal compared to femoral hernia

*-plasty : to fix*

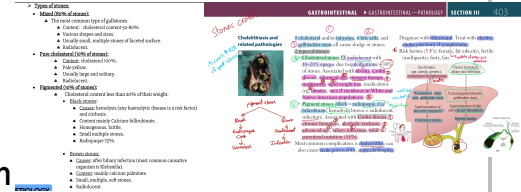


*Correct*

Answer: D

## 202. All are true regarding the pathogenesis of brown stones except?

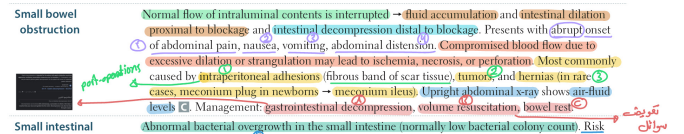
- A. They are formed mainly in the bile ducts.
- B. They are related to infections.
- C. Their content of cholesterol is less than 20%.
- D. They contain little amount of calcium palmitate.**
- E. The calcium bilirubinate they contain is a monomer form



Answer: D

## 203. Simple intestinal obstruction may be associated with all the following EXCEPT:

- A. Oliguria. *loss of fluids*
- B. Edema of the intestinal wall.
- C. Bacterial translocation.
- D. Abdominal rigidity.
- E. Leukocytosis.**



- **Simple bowel obstruction:** bowel obstruction with no evidence of complications (i.e., no features of bowel ischemia, bowel perforation, or red flags for complicated bowel obstruction)<sup>[1][2]</sup>
- **Complicated bowel obstruction:** bowel obstruction associated with strangulation, ischemic necrosis, or perforation<sup>[1][2]</sup>
- **Red flags for complicated bowel obstruction<sup>[1][2]</sup>**
  - Pain out of proportion
  - Peritoneal signs
  - Signs of systemic toxicity, e.g., SIRS
  - Hemodynamic instability
  - Laboratory abnormalities, e.g., significant leukocytosis, metabolic acidosis, ↑ lactate

Clinical features associated with the site of bowel obstruction <sup>[1][2]</sup>		
Clinical feature	SBO	LBO
Abdominal pain	• Colicky, periumbilical	• Colicky or constant
Vomiting and/or nausea	• Early onset • Larger volume of vomitus than in LBO	• Late onset • Small volume
Constipation or obstipation	• Late onset • Less severe than in LBO	• Early onset • Complete
Abdominal distention	• Typically less severe than in LBO	• Early and significant abdominal distention
Examination findings	• Deflation and possible hyperactive bowel sounds (in tension abdomen) • Diffuse abdominal tenderness • Bowel sounds present	• Early and significant abdominal distention • High-pitched bowel sounds (early) or the absence of any bowel sounds (late) • Confusion, large volume of fecal material (complete bowel obstruction) or fecaloma

Clinical course of acute and subacute bowel obstruction	
Acute bowel obstruction	Subacute bowel obstruction
<b>Clinical course</b> <ul style="list-style-type: none"> <li>• Abrupt onset of typical symptoms</li> <li>• Persistent signs</li> <li>• Signs of systemic toxicity or hemodynamic instability may be present</li> <li>• Can progress to complicated bowel obstruction</li> </ul> <b>Typical cases</b> <ul style="list-style-type: none"> <li>• Complete bowel obstruction</li> <li>• High-grade bowel obstruction</li> <li>• Closed-loop bowel obstruction</li> </ul>	<b>Clinical course</b> <ul style="list-style-type: none"> <li>• Clinical features are typically mild and progress slowly</li> <li>• Signs of systemic toxicity or hemodynamic instability are rare</li> <li>• Typically uncomplicated (simple bowel obstruction)</li> </ul> <b>Typical cases</b> <ul style="list-style-type: none"> <li>• Partial bowel obstruction</li> <li>• Low-grade bowel obstruction</li> <li>• Open-ended obstruction</li> </ul>

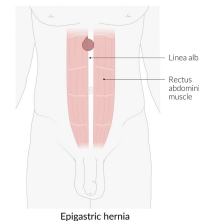
Answer: E (not sure)

## 204. A 50-year-old man presents with a complaint of a 1-cm moderately painful, tender mass situated one-third of the way between the xiphisternum and the umbilicus. What is the most likely diagnosis?

- A. Fat necrosis
- B. Omphalocele
- C. Epigastric hernia \***
- D. Spigelian hernia
- E. Fibrosarcoma of the abdominal wall

• **Anterior abdominal wall hernias**

- **Epigastric hernia:** protrusion of retroperitoneal contents through the linea alba, between the xiphisternum and the umbilicus<sup>[1]</sup>
- **Spigelian hernia:** protrusion of retroperitoneal contents through an abdominal wall defect due to a congenital or acquired weakness<sup>[1]</sup>
- **Paraumbilical hernia:** a subset of inguinal hernia in which retroperitoneal contents protrude through the abdominal wall defect located during descent of the colon<sup>[1]</sup>



Answer: C (MAYBE)

## 205. Which of the following is false regarding emphysematous cholecystitis?

- A. Typical age 50 – 70 years old
- B. It is caused most commonly by klebsiella pneumoniae**
- C. More common in diabetics
- D. More common in males

### Emphysematous cholecystitis

- By gas-forming bacteria (*E. coli*)
- Usually in diabetic patients, males and elderly and has a high morbidity and mortality rate.
- Often results in perforation of gallbladder.
- If gas is present in:
  - Biliary tree → Think of fistula.
  - In gallbladder wall → think of emphysematous GB.

Answer: B

207. In acute abdomen, one of the following statements is INCORRECT:

- A. Vomiting is a common symptom.
- B. Board-like rigidity is typically seen in perforated peptic ulcers.
- C. The abdomen is characteristically silent on auscultation.
- D. Continuous pain is typical of inflammatory conditions.
- E. Colicky pain indicates obstruction of a hollow viscus.

Find	Frequency
Normal	Low pitched, gurgling
Abnormal	None
Observation	High pitched, increased volume

11. Hyperactive bowel sounds

Differential Diagnosis:

- Gastroenteritis
- Acute
- Intestinal obstruction
- Small intestine
- Large intestine
- Small intestine
- Large intestine
- Small intestine
- Large intestine

Answer: honestly? All of these are correct

لا الجواب ج

208. The most common complication of hepatic hydatid disease is:

- A. Fever and urticaria.
- B. Rupture into biliary channel.
- C. Rupture into peritoneal cavity.
- D. Anaphylactic shock.
- E. Suppuration

من مضاعفات هذا المرض  
السؤال الـ 208

33. One of the following represents a major risk of ruptured hydatid liver cyst: \*\*

- A. rupture to bronchial tree
- B. rupture to pericardium
- C. rupture to stomach
- D. biliary rupture
- E. anaphylactic shock

System	Complication	Frequency
Respiratory	Rupture to bronchial tree	Common
Cardiac	Rupture to pericardium	Uncommon
Gastrointestinal	Rupture to stomach	Uncommon
Genitourinary	Rupture to bladder	Uncommon
Neurological	Rupture to brain	Uncommon
Other	Rupture to other organs	Uncommon

Answer: E

52. The commonest complication of a liver hydatid cyst is (among the choices): \*\*

- A. Biliary communication.
- B. Free rupture to the peritoneal cavity.
- C. Cyst infection.
- D. Compression of the hepatic veins.
- E. Fistulization to a hollow viscus.

Answer: A

Answer: A

209. A 72-year-old man collapses with sudden onset abdominal pain. He has been suffering from back pain recently and has been taking ibuprofen. What is the most likely cause?

- A. Bleeding Dieulafoy lesion
- B. Ruptured abdominal aortic aneurysm
- C. Peritonitis due to peptic ulcer disease
- D. Acute mesenteric artery embolus
- E. Pancreatitis

Risk factors
• Family history of aneurysm
• Long duration of aneurysm
• Smoking

Clinical features

- Constant pain
- Hypertension due to hypotension (acute aneurysm rupture) C2
- Sudden onset of severe tearing back or abdominal pain with radiation to the back, buttocks, legs or groin
- Ruptured aortic aneurysm
- Gross haematuria or haematemesis (acute aneurysm rupture) C2
- Shock (acute aneurysm rupture) C2
- Hypotension
- Hypertension
- Hypotension
- Hypertension

Vascular Surgery:

Abdominal aortic aneurysm:

- Etiology: a combination of degeneration (age) and inflammation (atherosclerosis + smoking).
- Risk factors: smoking (most important), age, male gender, family history, PVD, CAD. Associated with popliteal or femoral aneurysms.
- Mostly infrarenal (90%).

سبب جرحه انه  
موقعه يتأخر مع  
AAA  
+  
NOVA: NSAID  
for pancreatitis

Answer: B

210. Which of the following is the most common cause of pyogenic liver abscess?

- A. Iatrogenic
- B. biliary tract infection
- C. Colonic diverticulitis
- D. Appendicitis
- E. Trauma

INTRODUCTION
• Definition: a collection of pus in the liver parenchyma.
• Types:
• Pyogenic (bacterial)
• Fungal
• Parasitic
• Most common site is the right lobe.
ETIOLOGY
• Sources:
1. Direct spread from biliary tract infection.
2. Portal spread from GI infection (e.g. appendicitis, diverticulitis).
3. Systemic spread (bacteraemia).
4. Liver trauma (e.g. liver gunshot wound).
5. Cryptogenic (unknown source).

Pyogenic abscess:

- Usually older people with risk factors: HIV, IDU, travel, recent abdominal infection.
- Sources: portal (diverticulitis, appendicitis, IBD), biliary MC (cholecystitis, cholangitis), trauma, hemogenous. Causes: E coli, Klebsiella, Enterococcus, anaerobes.

Answer: B

211. One of the following is correct about familial adenomatous polyposis syndrome:

- A. Screening start at the teenage
- B. Presence of hamartomatous polyps in colon and rectum
- C. Is due to mutation at APC gene at chromosome number 8
- D. Hemicolectomy is the gold standard operation.
- E. The risk of malignancy in small bowel is 100%

Adenomatous

Total

Large

Polypoid syndromes

Familial adenomatous polyposis

Autosomal dominant mutation of APC tumor suppressor gene on chromosome 5q21-q22. 2-hit hypothesis. Thousands of polyps arise starting after puberty; pancolonic; always involves rectum. Prophylactic colectomy or else 100% progress to CRC.

Answer: A

## 212. Gallstone ileus most commonly caused by:

- A. Gallbladder to second part of duodenum
- B. CBD to duodenum
- C. CBD to gastric
- D. Gallbladder to gastric
- E. CBD to jejunal

**Gall stone ileus**

**INTRODUCTION**

- A small bowel obstruction from a large gall stone (>2.5 cm) that has eroded through the gall bladder into the duodenum/ small bowel, gall stone ileus accounts for 1% of cases of SMALL bowel obstruction.
- Site of obstruction:
  - I. Just proximal to the ileocecal valve: the classical site of obstruction
  - II. Duodenum
  - III. Sigmoid colon
- Risk factors: female >70 years.

Answer: A

## 213. What's the best bariatric intervention for a patient with BMI 50, sweet eater, diabetic, hypertensive, with reflux:

- A. laparoscopic gastric bypass
- B. jejunoileal bypass
- C. gastric band
- D. sleeve

Not for sweet eaters

Simrin

**Laparoscopic Sleeve Gastrectomy (Figure 15)**

1. Sleeve gastrectomy is reserved for the obese in the age of 18, along the gastric antrum.

2. It is usually the stomach, not the small intestine, that is resected. However, the duodenum is sometimes resected (Roux-Y).

**Advantages:**

- 1. No need for a small intestine resection.
- 2. No need for a small intestine resection.
- 3. No need for a small intestine resection.
- 4. No need for a small intestine resection.
- 5. No need for a small intestine resection.
- 6. No need for a small intestine resection.
- 7. No need for a small intestine resection.
- 8. No need for a small intestine resection.
- 9. No need for a small intestine resection.
- 10. No need for a small intestine resection.

**Disadvantages:**

- 1. No need for a small intestine resection.
- 2. No need for a small intestine resection.
- 3. No need for a small intestine resection.
- 4. No need for a small intestine resection.
- 5. No need for a small intestine resection.
- 6. No need for a small intestine resection.
- 7. No need for a small intestine resection.
- 8. No need for a small intestine resection.
- 9. No need for a small intestine resection.
- 10. No need for a small intestine resection.

**Roux-Y Gastric Bypass (Figure 16)**

1. Roux-Y gastric bypass (Figure 16)

2. It is the most popular surgery in U.S.A.

3. 70% success rate

**Procedure:**

1. The stomach is cut into small pouch (connected to the esophagus).
2. A Y-shaped part of the small intestine (that is connected to the remainder of the stomach) is cut.
3. The remaining small intestine is called Roux-Y.
4. The cut small intestine that is connected to the stomach is anastomosed after 75 cm of the Roux-Y.

**Biliopancreatic Diversion (BPD DS) (Figures 16 and 17)**

1. Biliopancreatic Diversion (BPD DS) (Figures 16 and 17)

2. It is combined, but more Malabsorptive.

3. It has many complications (severe vitamin deficiency, anorexia, dumping syndrome, etc.), less commonly done.

Answer: A

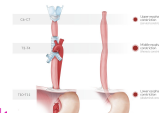
## 214. All of the following are associated with malignant transformation in small intestine except:

- A. Scleroderma
- B. Crohn's disease
- C. FAP
- D. Puets jeghers syndrome

Answer: A

## 215. One is right about esophageal anatomy:

- A. It deviates anterior and to the left at diaphragm
- B. It's 15 cm in length *25 cm*
- C. It starts at the level of C5 *C6*
- D. It passes anterior to the aorta in the mediastinum *posterior*
- E. It's composed of somatic muscle fibers in the lower third *smooth*



**Esophagus**

**Anatomy:** The esophagus is a tube-like structure that carries food and liquids from the mouth to the stomach. It is located in the neck and chest.

**Structure:** The esophagus is composed of three parts: the upper esophagus, the middle esophagus, and the lower esophagus.

**Function:** The esophagus is responsible for the transport of food and liquids from the mouth to the stomach.

**Common Disorders:** The esophagus is prone to several disorders, including reflux, esophagitis, and esophageal cancer.

Answer: A

## 216. Gastric cancer a, what is wrong:

- A. CEA and some other tumor marker are used as diagnostic tests *monitoring only*
- B. Stage 3 is potentially resectable ✓
- C. Proximal gastric tumor might present with dysphasia ✓

Staging	Staging	Staging
<ul style="list-style-type: none"> <li>T1: mucosa/submucosa</li> <li>T2: muscularis propria</li> <li>T3: serosa</li> <li>T4: through serosa</li> </ul>	<ul style="list-style-type: none"> <li>N1: 1-3 lymph nodes</li> <li>N2: 4-6 lymph nodes</li> <li>N3: 7+ lymph nodes</li> </ul>	<ul style="list-style-type: none"> <li>M1: 1-3 lymph nodes</li> <li>M2: 4-6 lymph nodes</li> <li>M3: 7+ lymph nodes</li> </ul>

Answer: A

## 217. Case of acute cholangitis, which is wrong:

- A. Hematogenous spread of the organism via portal vein
- B. Classical presentation is abdominal pain, fever and jaundice
- C. Treat by antibiotics, monitoring sepsis, and biliary drainage
- D. If suppurative could also present with hypotension and altered mental status
- E. Most commonly caused by biliary stasis and obstruction

Acute cholangitis

Also called **ascending cholangitis**. Infection of **biliary tree** usually due to obstruction that leads to stasis/bacterial overgrowth.

Charcot triad of cholangitis includes: **jaundice, fever, RUQ pain**.

Reynolds pentad is Charcot triad plus **altered mental status** and **shock/hypotension**.

Answer: A



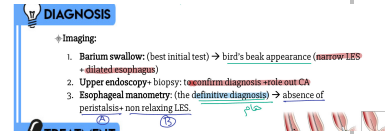
## 218. Hepatocellular carcinoma tumor marker:

- A. AFP
- B. CA19-9
- C. BCL2
- D. b-HCG

Answer: A

## 219. In achalasia, most sensitive test:

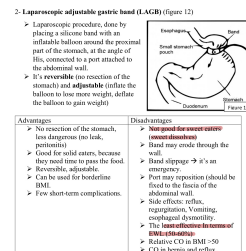
- A. Bird peak on Barium swallow
- B. Manometry showing failure of relaxation of LES with swallowing
- C. Biopsy
- D. Aperistalsis of cervical esophagus



Answer: B

## 220. Bariatric surgery, Band ligation, what is wrong:

- A. Banding shows comparable results with bypass in relation to the extent of weight loss
- B. Dumping syndrome is not a significant complication
- C. Poor choice for sweet eaters
- D. Results in less leak complications



Answer: A

## 221. Gallbladder function all true except:

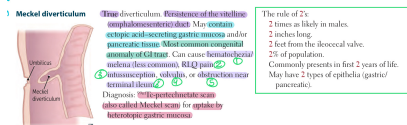
- A. Absorption of water
- B. Absorption of H
- C. Absorption of Na
- D. Absorption of Cl
- E. Secretion of glycoprotein

فقط

Answer: B

## 222. About meckel's diverticulum, which is wrong:

- A. Fresh bleeding
- B. Causes Painful hematemesis
- C. Contains gastric mucosa
- D. Contains pancreatic mucosa



Not upper GI Bleeding

Answer: B

## 223. About acute pancreatitis what is wrong:

- A. Gall bladder stones including microlithiasis is MCC worldwide
- B. Alcohol is responsible for 30% of cases in Jordan
- C. Incidence following ERCP is 6%

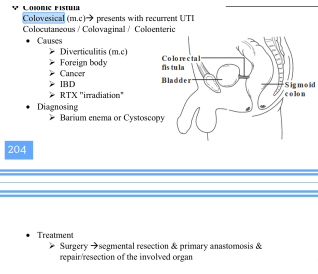
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الكحول

Answer: B



## 224. Most common cause of colovesical fistula?

- A. Diverticulitis
- B. Colonic abscess
- C. Crohn's disease
- D. Vesical squamous cell carcinoma
- E. Urethral obstruction



### 3. Fistulisation:

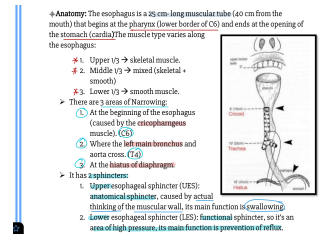
- Fistulas between colon and other organs may occur secondary to diverticulitis.
- Colovesical fistulas are the most common and diverticulitis is the most common cause of colovesical fistulas.
- Colovaginal and colovesical fistulas usually occur in women who have previously undergone hysterectomy.
- Colocutaneous and coloenteric fistulas are uncommon.
- Colonoscopy should be done after 6 weeks to rule out other causes of fistulas.

Answer: A

## 225. Narrowest part of the esophagus:

- A. At the level of the aortic arch
- B. Junction between second and third parts
- C. Cricopharyngeus

The first constriction is at 15 cm from the upper incisor teeth, where the esophagus commences at the cricopharyngeal sphincter; this is the narrowest portion of the esophagus and approximately corresponds to the sixth cervical vertebra.



Answer: C

## 226. One of the following is given in post splenectomy vaccination:

- A. Strep. Pneumonia
- B. VZV
- C. BCG
- D. Tetanus

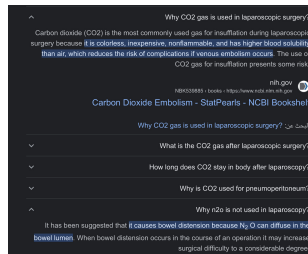
### • Preoperative consideration:

- Vaccinations for encapsulated bacteria two weeks prior to surgery:
  1. Strep Pneumonia.
  2. Haemophilus influenzae type B.
  3. Neisseria meningitidis.

Answer: A

## 227. Correct about gas used in lap cholecystectomy?

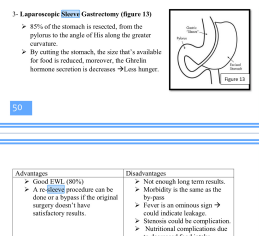
- A. Low water content
- B. It's mainly composed of O<sub>2</sub> CO<sub>2</sub>
- C. It has high nitrogen content
- D. It's loaded with topical antibiotics NO



Answer: A

## 228. Not a complication of sleeve?

- A. anastomosis leak
- B. stenosis
- C. nutritional imbalances



Anastomosis insufficiency  
The leakage of intraluminal contents from the site of surgical anastomosis between two hollow viscera (e.g., after bowel or vascular anastomosis).

Answer: I don't know

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## 229. Wrong about fibrolamellar liver CA :

- A. elevates alpha feto protein in 90% of cases
- B. Doesn't have male predominance
- C. Happens in ages 5-35
- D. Cirrhosis isn't an identified risk factor

### Extra super important note:

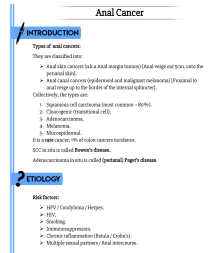
#### Fibrolamellar hepatoma:

- Is a rare histologic variant of HCC. However, there is considerable evidence that FLC is distinct from HCC in its epidemiology, biology, and prognosis.
- Males and females are equally affected, commonly at a young age (20 to 40 years old).
- It is uncommon for FLC to be associated with underlying liver disease such as cirrhosis.
- The histology of FLC strongly resembles that of FNH, but any etiologic association between them remains unproven. FLC appears as a hypovascularized, well-defined, solitary mass on nonenhanced CT scan. On contrast-enhanced CT, the cellular portion enhances homogeneously; the central scar usually does not enhance, unlike the scar of FNH.
- α-Fetoprotein is often not elevated in FLC.
- FLC is best treated with complete surgical resection, which is possible in 80% of patients.
- Resectable FLC is associated with a better prognosis than HCC, with a 5-year survival rate greater than 70%. Late recurrence occurs in more than two-thirds of cases, and repeat resection of local disease should be considered.
- Liver transplantation is an option for unresectable but nonmetastatic lesions.

Answer: A

### 230. Regarding squamous cell carcinoma of the anal canal, which is true??

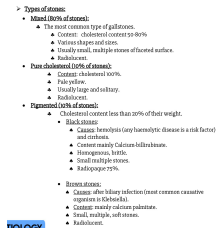
- ☒ A. Related to HPV
- B. Most common in teenage
- C. More common in males



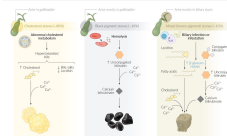
Answer: A

### 231. Wrong about gallstones:

- A. Black stones are associated with hemolysis
- B. Black stones occur exclusively in the gallbladder
- C. Brown stones associated with biliary tract infections
- D. Pure cholesterol stones = solitary
- ☒ E. Brown stones associated with increased calcium bilirubinate



Answer: E



### 232. Not part of gastric CA evaluation:

- A. CT
- B. Endoscopic u/s
- C. Laparoscopy
- ☒ D. Laparotomy

مذكور سابقاً

Answer: D

### 233. About diverticular disease which is wrong:

- ☒ A. 60% develop diverticulitis
- B. Most common cause of LGI bleeding

مذكور سابقاً

Answer: A (it is 10-25%)

### 235. wrong about hemorrhoids:

- A. Peak at age 45-65
- ☒ B. Most common symptom is pain
- C. Hemorrhoids are normally cushions found in everyone and aid in continence
- D. Internal are covered by mucosa, external by skin
- E. Stage 3 and 4 corrected surgically

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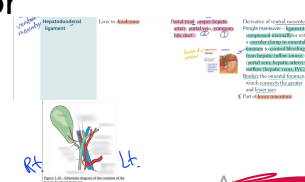
Some of the most common symptoms include: Bright red blood in your stool, on toilet paper, or in your toilet bowl. Pain and irritation around your anus. Swelling or a hard lump around your anus.

Answer: B

### 236. One is true regarding the orientation of CBD , hepatic artery and portal vein

- ☒ A. CBD right , hepatic artery left . portal vein posterior
- B. CBD left , hepatic artery and portal vein posterior
- C. CBD right, hepatic artery and portal vein posterior
- D. CBD right, hepatic artery left, portal vein posterior

مذكور سابقاً



Answer: A

237. 55 male patient with inguinal pain, he has had a swelling that was reducible .. Now there's absent cough impulse what to do:

- A. Exploration (because pain is a sign of strangulation)
- B. U/S
- C. CT scan
- D. Iv antibiotics in the surgical ward

Which hernia has a cough impulse?  
Hernias of the groin typically present with the following clinical features: Single lump in the inguinal region. Positive cough impulse (unless incarcerated)

The presence of an expansile cough impulse is almost diagnostic of a hernia. However a hernia may not have a cough impulse - neck of the sac may be blocked by adhesions which prevent the movement of additional viscera into the sac during coughing.

Answer: A (maybe)

238. Which is true about Familial adenomatous polyposis:

- A. Problem on ch15 *5*
- B. 75% will develop into malignancy *100%*
- C. Polyps in late adulthood *early*
- D. Panproctocolectomy with pouch is curative

Answer: D

239. Wrong about bariatric surgery:

- A. Gastric bypass is restrictive not malabsorptive
- B. bypass is good for sweat eaters ✓
- C. banding is number one in children ✓

Answer: A (it's both)

240. Carcinoid syndrome, what is wrong:

- A. Comes with neuroendocrine tumors
- B. Can be with MEN1
- C. The syndrome is associated with 5-HIAA
- D. Tumors originate from fibrous cells

**Carcinoid tumors**  
Carcinoid tumors arise from neuroendocrine cells, most commonly in the intestine or lung. Neuroendocrine cells secrete 5-HT which undergoes hepatic first-pass metabolism and serum levels are low. If 5-HT reaches the systemic circulation (eg. after liver metastasis), carcinoid tumor may present with carcinoid syndrome - episodes of flushing, diarrhea, wheezing, right-sided valvular heart disease (eg. tricuspid regurgitation; pulmonary stenosis), niacin deficiency (pellagra), tumour 5-HIAA.  
Histology: nests of EL chromogranin A & synaptophysin.  
Treatment: surgical resection, somatostatin analog (eg. octreotide) or tryptophan hydroxylase inhibitor (eg. telotristat) for symptom control.  
Rule of thirds:  
1/3 metastasize  
1/3 present with 2nd malignancy  
1/3 are multiple

Answer: D

241. Bleeding artery in duodenal ulcer is:

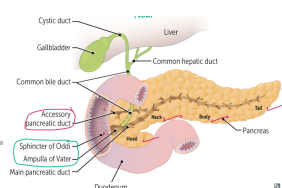
- A. Gastroduodenal artery *↳ posterior*
- B. Right gastroepiploic artery
- C. Hepatic artery
- D. Right gastric artery
- E. Splenic artery

*Anterior → perforation*

Answer: A

242. Abdominal Anatomy, all of the following are true except:

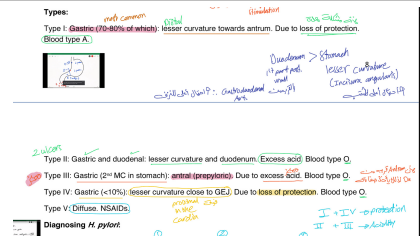
- A. Pancreas is related to medial side of duodenum
- B. Liver and gb cover 1st part of duodenum *False*
- C. The portal vein is created by the splenic vein and SMV
- D. The gastroduodenal artery originates from the common hepatic artery



Answer: B

### 243. True about type one benign gastric ulcer: \*\*\*\*

- A. Associated with hypergastrinemia
- B. Increased with increased parietal cell activity
- C. Decreased mucosal defenses**
- D. Underlying etiology includes vagal over stimulation



Answer: C

### 244. A patient with BMI above 50, sweet eater, comorbidities, best bariatric surgery in this case is:

- A. Laparoscopic sleeve gastrectomy
- B. Laparoscopic gastric bypass**
- C. Vertical banded gastroplasty
- D. Lap adjustable gastric band

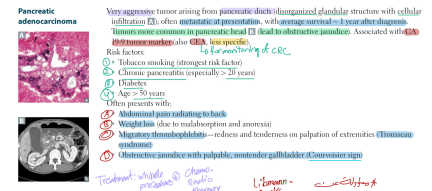
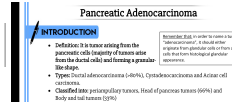
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Answer: B

### 245. Pancreatic adeno carcinoma, which is false:

- A. 70% in the head
- B. 90% ductal
- C. In resectable, 20% 5-yr survival
- D. P16 mutation is found in more than 90% (this is true)
- E. Papillary and mucinous cystadenocarcinoma are worse prognosis**

Ductal

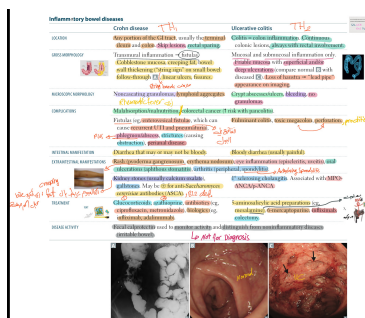


- Prognosis:
  - Unresectable tumor → 5-year survival is < 5% (they live about 4-6 months).
  - After successful resection → 5-year survival 15-20% (they live about 12-19 months).

Answer: E

### 246. All seen with crohn's disease except:

- A. Leap pipe appearance on barium enema → UC**
- B. Serosal involvement
- C. Skipped lesions
- D. Cobblestone
- E. Cryptitis



Answer: A

I hope you get the best grades and best outcomes this year, with the biggest yield of knowledge inshaAllah..

Please do contact me if you spot any mistakes and/ or you have any question  
Best of luck

