



# Pathology

## Gastrointestinal pathology Questions

Done by : Abdel Al-Mue'z

## ***Gastrointestinal pathology***

### Question 1

A 41-year-old man has a history of drinking 1 to 2 liters of whisky per day for the past 20 years. He has had numerous episodes of nausea and vomiting in the past 5 years. He now experiences a bout of prolonged vomiting, followed by massive hematemesis. On physical examination his vital signs are: T 36.9°C, P 110/min, RR 26/min, and BP 80/40 mm Hg lying down. His heart has a regular rate and rhythm with no murmurs and his lungs are clear to auscultation. There is no abdominal tenderness or distension and bowel sounds are present. His stool is negative for occult blood. Which of the following is the most likely diagnosis?

- A ☐ Hiatal hernia
- B ☐ Esophageal laceration
- C ☐ Esophageal pulsion diverticulum
- D ☐ Barrett esophagus
- E ☐ Esophageal squamous cell carcinoma
- F ☐ Esophageal stricture

### Question 2

A 50-year-old man has had persistent nausea for 5 years with occasional vomiting. On physical examination there are no abnormal findings. He undergoes upper GI endoscopy, and a small area of gastric fundal mucosa has loss of rugal folds. Biopsies are taken and microscopically reveal well-differentiated adenocarcinoma confined to the mucosa. An upper GI endoscopy performed 5 years previously showed a pattern of gastritis and microscopically there was chronic inflammation with the presence of. Which of the following is the most likely risk factor for his neoplasm?

- A ☐ Inherited APC gene mutation
- B ☐ *Helicobacter pylori* infection
- C ☐ Chronic alcohol abuse

D ☐ Use of non-steroidal anti-inflammatory drugs

E ☐ Vitamin B12 deficiency

### Question 3

A 58-year-old man has had increasing difficulty swallowing for the past 6 months and has lost 5 kg. No abnormal physical examination findings are noted. Upper GI endoscopy reveals a nearly circumferential mass with overlying ulceration in the mid esophageal region. Biopsy of the mass reveals pink polygonal cells with marked hyperchromatism and pleomorphism. Which of the following is the most likely risk factor for development of his disease?

A ☐ Iron deficiency

B ☐ *Helicobacter pylori* infection

C ☐ Chronic alcohol abuse

D ☐ High fruit diet

E ☐ Zenker diverticulum

### Question 4

A 31-year-old man with a stab wound to the abdomen is taken to surgery. While repairing the small intestine, the surgeon notices the presence of a 1 cm circumscribed submucosal mass in the ileum. The lesion is resected and on gross examination has a firm, yellow-tan cut surface. Microscopically, the mass is composed of nests of cells with uniform small round nuclei and cytoplasm with small purple granules. The cytoplasm is positive with antibody to chromogranin on immunohistochemical staining. Which of the following pathologic findings is most likely to accompany this man's lesion?

A ☐ Liver metastases

B ☐ Another similar lesion

C ☐ Multiple gastric ulcerations

D ☐ Pancreatic adenocarcinoma

- E ☐ Inflammatory bowel disease
- F ☐ *Tropheryma whippelii* infection

#### Question 5

A 38-year-old man has had upper abdominal pain for 3 months. For the past week he has had nausea. On physical examination a stool sample is positive for occult blood. An upper GI endoscopy reveals no esophageal lesions, but there is a solitary 2 cm diameter shallow, sharply demarcated ulceration of the stomach. Which of the following is most characteristic for this lesion?

- A ☐ Antral location
- B ☐ Potential for metastases
- C ☐ Increased gastric acid production.
- D ☐ No need for biopsy
- E ☐ Accompanying pancreatic gastrinoma

#### Question 6

A 15-year-old boy from Ghana has the acute onset of right upper quadrant abdominal pain. Abdominal ultrasound reveals a dilated gallbladder with thickened wall and filled with calculi. A laparoscopic cholecystectomy is performed. The gallbladder is opened to reveal ten multifaceted 0.5 to 1 cm diameter dark, greenish-black gallstones. Which of the following underlying conditions does this boy most likely have?

- A ☐ Sickle cell anemia
- B ☐ Crohn disease
- C ☐ Hypercholesterolemia
- D ☐ Hyperparathyroidism
- E ☐ Primary biliary cirrhosis
- F ☐ Schistosomiasis

### Question 7

A 35-year-old healthy woman develops sudden severe abdominal pain. On physical examination she is afebrile. On palpation the pain is centered in the mid-epigastric region, though there is marked diffuse tenderness in all quadrants. Bowel sounds are absent. No masses are palpable. Laboratory studies show her serum lipase is 610 U/L. Which of the following laboratory test findings is most likely to indicate the risk factor for this woman's illness?

- A ☐ Hypercholesterolemia
- B ☐ Positive urea breath test
- C ☐ Hypercalcemia
- D ☐ Elevated sweat chloride
- E ☐ Positive serology for HBsAg

### Question 8

A 63-year-old woman has increasing fatigue for the past year. On physical examination no abnormal findings are noted. Laboratory studies show microcytic hypochromic anemia. Upper GI endoscopy and colonoscopy are performed with no lesions noted. Capsule endoscopy reveals a 2 cm diameter slightly raised dark red mucosal area with scalloped edges and a visible draining vein. What is the most likely diagnosis?

- A ☐ Adenocarcinoma
- B ☐ Angiodysplasia
- C ☐ Celiac disease
- D ☐ Ectopic gastric tissue
- E ☐ Ischemic bowel disease

### Question 9

A 45-year-old man has had vague abdominal pain and nausea for the past 3 years. This pain is unrelieved by antacid medications. He has no difficulty swallowing and no heartburn following meals. On physical examination there are no abnormal findings. Upper GI endoscopy reveals antral mucosal erythema, but no ulcerations or masses. Biopsies are taken, and microscopically there is a chronic non-specific gastritis. Which of the following conditions is most likely to be present in this man?

- A ☐ Zollinger-Ellison syndrome
- B ☐ Pernicious anemia
- C ☐ *Helicobacter pylori* infection
- D ☐ Adenocarcinoma
- E ☐ Crohn disease
- F ☐ Mixed connective tissue disease

### Question 10

A 25-year-old man has noted cramping abdominal pain for the past week associated with fever and low-volume diarrhea. On physical examination, there is right lower quadrant tenderness. Bowel sounds are present. His stool is positive for occult blood. A colonoscopy reveals mucosal edema and ulceration in the ascending colon, but the transverse and descending portions of the colon are not affected. Laboratory studies show serum anti-*Saccharomyces cerevisiae* antibodies. Which of the following microscopic findings is most likely to be present in biopsies from his colon?

- A ☐ Crypt abscesses
- B ☐ *Entameba histolytica* organisms
- C ☐ Adenocarcinoma
- D ☐ Band-like mucosal fibrosis
- E ☐ Non-caseating granulomas
- F ☐ Necrotizing vasculitis

Question 11

A 32-year-old woman has a 10 year history of intermittent, bloody diarrhea. She has no other major medical problems. On physical examination there are no lesions palpable on digital rectal examination, but a stool sample is positive for occult blood. Colonoscopy reveals a friable, erythematous mucosa with focal ulceration that extends from the rectum to the mid-transverse colon. Biopsies are taken and all reveal mucosal acute and chronic inflammation with crypt distortion, occasional crypt abscesses, and superficial mucosal ulceration. This patient is at greatest risk for development of which of the following conditions?

- A ☐ Acute pancreatitis
- B ☐ Diverticulitis
- C ☐ Sclerosing cholangitis
- D ☐ Appendicitis
- E ☐ Perirectal fistula
- F ☐ Non-Hodgkin lymphoma

Question 12

A 39-year-old man is having a routine physical examination because of a history of colon cancer in his family. He has no abdominal tenderness or masses, and active bowel sounds are present. However, his stool is positive for occult blood. Colonoscopy is performed. There are 7 polyps found in the ascending colon: three of these are small 0.5 cm pedunculated tubular adenomas, three are 1 cm tubulovillous adenomas, and one is a 2 cm sessile villous adenoma in the cecum containing a focus of well differentiated adenocarcinoma. Which of the following is his most likely underlying diagnosis?

- A ☐ Peutz-Jeghers syndrome
- B ☐ Chronic ulcerative colitis
- C ☐ Hereditary non-polyposis colon carcinoma
- D ☐ Adenomatous polyposis coli
- E ☐ Gardner syndrome

### Question 13

A 72-year-old woman notes increasing jaundice and nausea for the past month. On physical examination she is afebrile, but scleral icterus is present. There is no abdominal pain on palpation. She has active bowel sounds. A stool sample is negative for occult blood. Laboratory findings include total protein 6.1 g/dL, albumin 3.3 g/dL, alkaline phosphatase 210 U/L, AST 49 U/L, ALT 40 U/L, total bilirubin 7.2 mg/dL, and direct bilirubin 6.3 mg/dL. Her serum lipase is 50 U/L. Which of the following conditions is she most likely to have?

- A ☐ Pancreatic adenocarcinoma
- B ☐ Cystic fibrosis
- C ☐ Chronic active hepatitis
- D ☐ Primary biliary cirrhosis
- E ☐ Chronic persistent hepatitis
- F ☐ Autoimmune hemolytic anemia

### Question 14

A 45-year-old man has had a fever and a productive cough for the past 3 days. On physical examination there is dullness to percussion over the right upper lung. His temperature is 37.9°C. A chest radiograph reveals right upper lobe consolidation. Laboratory findings include serum total protein of 6.0 g/dL, albumin 2.7 g/dL, AST 185 U/L, ALT 98 U/L, total bilirubin 1.0 mg/dL, alkaline phosphatase 31 U/L, and prothrombin time 20 sec. An abdominal CT scan shows hepatomegaly with decreased hepatic attenuation. Which of the following conditions is the most likely underlying cause of death?

- A ☐ Alpha-1-antitrypsin deficiency
- B ☐ Wilson disease
- C ☐ Acute hepatitis C
- D ☐ Diabetes mellitus



E ☐ Biliary tract lithiasis

#### Question 15

A 62-year-old man has had anorexia, vomiting, and vague abdominal pain accompanied by weight loss of 6 kg over the past 2 months. Physical examination reveals supraclavicular non-tender lymphadenopathy. He becomes progressively cachectic. An abdominal CT scan shows the stomach is shrunken with the gastric wall thickened to 1 cm and with extensive overlying mucosal erosions. Multiple masses from 1 to 4 cm in size are scattered within the liver. Which of the following conditions most likely preceded development of his illness?

A ☐ Acquired immunodeficiency syndrome

B ☐ Hyperglycemia

C ☐ Chronic alcoholism

D ☐ Pernicious anemia

E ☐ Systemic sclerosis

F ☐ Use of NSAIDS

#### Question 16

A 44-year-old man, an emergency medical technician, has felt fatigued for the past 4 months. He experienced an episode of jaundice 10 years ago, but that resolved and he has been healthy since. On physical examination there are no remarkable findings. Laboratory studies show his hemoglobin is 14 g/dL and serum electrolytes normal, but he has a total protein of 5.4 g/dL, albumin 2.9 g/dL, ALT 132 U/L and AST 113 U/L with total bilirubin 1.3 mg/dL and direct bilirubin 0.8 mg/dL. A liver biopsy is performed and microscopic examination shows interface inflammation with extension of inflammation into the lobules from the triads. There is focal ballooning degeneration of hepatocytes. Which of the following laboratory test findings is most characteristic for his disease?

A ☐ Decreased serum alpha-1-antitrypsin

B ☐ Positive hepatitis B surface antigen

C ☐ Increased serum ferritin

D ☐ Decreased serum ceruloplasmin

E ☐ Positive antimitochondrial antibody

#### Question 17

A 20-year-old man is healthy but has a family history of colon cancer with onset at a young age. There are no abnormal physical examination findings. He undergoes colonoscopy and there are over 200 tubular adenomas ranging in size from 0.2 to 1 cm on gross inspection and microscopic examination of biopsies. Which of the following genetic diseases is he most likely to have?

A ☐ Hereditary non-polyposis colon carcinoma syndrome

B ☐ Gardner syndrome

C ☐ Peutz-Jeghers syndrome

D ☐ Adenomatous polyposis coli

E ☐ Multiple endocrine neoplasia

#### Question 18

A 41-year-old man has experienced progressive fatigue, pruritus, and icterus for the past 4 months. He had a total colectomy performed five years ago. On physical examination he is afebrile. Scleral icterus is present. His stool from a Koch pouch is negative for occult blood. Cholangiography reveals the widespread obliteration of intrahepatic bile ducts. A liver biopsy is performed and on microscopic examination shows periductular 'onion skin' fibrosis with a moderate lymphocytic infiltrate. Some intrahepatic bile ducts are obliterated, but there is no interface hepatitis. Which of the following underlying diseases is he most likely to have?

A ☐ Ulcerative colitis

B ☐ Systemic lupus erythematosus

C ☐ Wilson disease

D ☐ Hepatitis B viral infection

E ☐ Primary biliary cirrhosis

F ☐ Alpha-1-antitrypsin deficiency

### Question 19

A 43-year-old man has had mid epigastric pain and nausea for the past 2 months. On physical examination he has no abnormal findings. On upper GI endoscopy a solitary sharply demarcated 2-cm shallow gastric antral ulcer is seen. Which of the following laboratory test findings is most likely to be present in this man?

- A ☐ Gastric achlorhydria
- B ☐ Positive serology for antinuclear antibody
- C ☐ Positive urea breath test
- D ☐ Increased plasma cortisol
- E ☐ Elevated serum gastrin

### Question 20

A 40-year-old man has a long history of chronic alcohol abuse. On physical examination his liver edge is firm on palpation of the abdomen, but liver span does not appear to be increased. An abdominal CT scan reveals a cirrhotic liver. He joins a support group for persons with chronic alcohol abuse and he stops drinking. Despite his continued abstinence from alcohol, he most likely remains at risk for development of which of the following diseases?

- A ☐ Hepatic adenoma
- B ☐ Focal nodular hyperplasia
- C ☐ Cholelithiasis
- D ☐ Angiosarcoma
- E ☐ Hepatocellular carcinoma
- F ☐ Non-Hodgkin lymphoma
- G ☐ Hemangioma

### Question 21

A 22-year-old woman has had progressive malaise for the past year. She has become increasingly obtunded over the past week. On physical examination she is afebrile. Laboratory studies show a plasma ammonia of 55 micromol/L along with serum total bilirubin of 5.8 mg/dL, direct bilirubin 4.6 mg/dL, AST 110 U/L, and ALT 135 U/L. Her serum ceruloplasmin is 14 mg/dL. The antimitochondrial antibody test is negative. A liver biopsy is performed and microscopic examination reveals increased copper deposition. Which of the following ocular findings is most likely to be present in this woman?

- A ☐ Bilateral papilledema
- B ☐ Macular degeneration
- C ☐ Proliferative retinopathy
- D ☐ Crystalline lens cataract formation
- E ☐ Corneal Kayser-Fleischer rings
- F ☐ Canal of Schlemm occlusion

### Question 22

A 28-year-old woman with recent onset of a major depressive disorder ingests an entire bottle (100 capsules, 500 mg each) of a medication containing acetaminophen. She becomes progressively obtunded over the next 8 hours. Which of the following microscopic findings is most likely to be present in her liver 3 days following this ingestion?

- A ☐ Normal histology
- B ☐ Extensive necrosis
- C ☐ Bridging fibrosis
- D ☐ Severe steatosis
- E ☐ Portal chronic inflammation
- F ☐ Intracanalicular cholestasis

### Question 23

A 23-year-old primigravida gives birth at term following an uncomplicated pregnancy to a male infant with no apparent congenital anomalies. At 4 weeks of age the infant begins to exhibit forceful vomiting after each feeding. The infant had been fine previously and gaining weight normally. Which of the following conditions is the probable cause for his vomiting?

- A ☐ congenital duodenal atresia
- B ☐ Necrotizing enterocolitis
- C ☐ Mallory-Weiss syndrome
- D ☐ Hirschsprung disease
- E ☐ Tracheo-esophageal fistula
- F ☐ Pyloric stenosis

### Question 24

A 45-year-old woman has noted difficulty swallowing for the past 6 months. On physical examination there are no abnormal findings. A barium swallow reveals an area of stricture in the lower esophagus just above the gastroesophageal junction. She has an upper GI endoscopy performed and biopsies of the lower esophagus are taken which show squamous epithelium with no acute or chronic inflammation or ulceration, only submucosal atrophy along with fibrosis of smooth muscle. Which of the following is the most likely diagnosis?

- A ☐ Mallory-Weiss syndrome
- B ☐ Systemic sclerosis
- C ☐ Iron deficiency
- D ☐ Portal hypertension
- E ☐ Barrett esophagus

### Question 25

A 53-year-old postmenopausal woman has been feeling increasingly tired for 3 months. She has had mid-epigastric pain for the past month. On physical examination her stool is positive for occult blood. Laboratory findings include a WBC count of 6300/uL, Hgb 12.0 g/dL, Hct 35.4%, MCV 73 fL, platelet count 236,000/uL, total protein 6.0 g/dL, albumin 3.5 g/dL, alkaline phosphatase 270 U/L, AST 84 U/L, ALT 35 U/L, lipase 45 U/L, total bilirubin 1.1 mg/dL, and direct bilirubin 0.8 mg/dL. Which of the following is the most likely explanation for her findings?

- A ☐ Metastatic adenocarcinoma
- B ☐ Wilson disease
- C ☐ Acute hepatitis A
- D ☐ Acetaminophen toxicity
- E ☐ Congestive heart failure
- F ☐ Chronic alcohol abuse
- G ☐ Non-alcoholic fatty liver

### Question 26

A 25-year-old man complains of a low volume but chronic, foul smelling diarrhea for the past year. He has no nausea or vomiting. On physical examination there is no abdominal pain or masses and bowel sounds are present. His stool is negative for occult blood. Laboratory studies include a quantitative stool fat of 10 g/day. Upper GI endoscopy is performed with biopsies taken of the duodenum, and on microscopic examination show absence of villi, increased surface intraepithelial lymphocytes, and hyperplastic appearing crypts. Which of the following therapies is most likely to be useful for this man?

- A ☐ Antibiotics
- B ☐ Gluten-free diet
- C ☐ Selective vagotomy
- D ☐ Corticosteroids
- E ☐ Segmental duodenal resection

F ☐ Aromatherapy

#### Question 27

A 32-year-old man has had lower abdominal pain for the past 12 hours. On physical examination there is tenderness to palpation in the right lower quadrant. Laparoscopic appendectomy is performed. On microscopic examination of the resected appendix, all the inflammation is limited to the serosa. What should the pathologist most strongly suspect in this case?

A ☐ Mild early acute appendicitis

B ☐ Chronic appendicitis

C ☐ Polyarteritis nodosa

D ☐ Peritonitis

E ☐ Normal appendix

#### Question 28

A 51-year-old man undergoes routine health examination by his nurse practitioner. There are no abnormal physical examination findings except for a stool sample positive for occult blood. Colonoscopy is performed and there is a 1 cm polyp on a narrow stalk located in the descending colon at 30 cm from the anal verge. The polyp is resected and on microscopic examination shows crowded, tubular, atypical colonic-type glands. The stalk of the polyp is covered with normal colonic epithelium. Which of the following is the most likely diagnosis?

A ☐ Adenomatous polyp

B ☐ Inflammatory fibroid polyp

C ☐ Peutz-Jeghers polyp

D ☐ Ulcerative colitis pseudopolyp

E ☐ Hyperplastic polyp

F ☐ Crohn disease

### Question 29

A 50-year-old man gives a history of chronic alcohol abuse. He has had bouts of abdominal pain in the past year. For the past month, he has had more frequent and worsening abdominal pain. Physical examination reveals right upper and left upper quadrant pain with guarding. An abdominal plain film radiograph reveals no free air, but there is extensive peritoneal fluid collection along with dilated loops of small bowel. An abdominal CT scan reveals a 7 to 8 cm cystic mass in the tail of the pancreas. Which of the following is the most likely diagnosis?

- A ☐ Pancreatic neuroendocrine tumor
- B ☐ Acute pancreatitis
- C ☐ Pancreatic pseudocyst
- D ☐ Metastatic carcinoma
- E ☐ Pancreatic adenocarcinoma

### Question 30

A 39-year-old woman has experienced substernal burning pain following meals for the past 15 years. On physical examination there are no abnormal findings. Upper GI endoscopy is performed and there are 1 to 3 cm long tongues of erythematous mucosa extending from the gastroesophageal junction at the Z line upward into the lower esophagus. Biopsies are performed of this region and microscopic examination shows areas of gastric cardiac-type mucosa and intestinalized mucosa. Which of the following is the most likely explanation for this woman's findings?

- A ☐ congenital anomaly
- B ☐ Adenocarcinoma
- C ☐ Gastroesophageal reflux
- D ☐ Diverticulum formation
- E ☐ Iron deficiency anemia
- F ☐ Systemic sclerosis



G ☐ Alcohol abuse

#### Question 31

A 54-year-old man has complained for 5 months of upper abdominal pain accompanied by nausea. He does not have hematemesis. On physical examination the only finding is a stool sample positive for occult blood. Upper GI endoscopy is performed and gastric biopsies are taken that on microscopic examination reveal acute and chronic mucosal inflammation along with the presence of *Helicobacter pylori* organisms. The presence of these organisms is most likely to be associated with which of the following?

A ☐ Gastric mucosal invasion with septicemia

B ☐ Duodenal peptic ulceration

C ☐ Pernicious anemia

D ☐ Hypochlorhydria

E ☐ Diffuse large B cell lymphoma

#### Question 32

A 46-year-old man has had malabsorption with 5 kg weight loss for the past year associated with a low volume diarrhea. He also has a polyarthritis and complains of occasional visual hallucinations. On physical examination there are no joint deformities. A stool sample is negative for occult blood. An abdominal CT scan reveals no masses, only generalized lymphadenopathy. On upper GI endoscopy, there are no esophageal or gastric lesions, but there are broad, flattened villi in the duodenum. Biopsies of the duodenum reveal numerous PAS-positive macrophages in the submucosa. Which of the following therapies is most likely to be useful for this man?

A ☐ Gluten-free diet

B ☐ Corticosteroids

C ☐ Antibiotics

D ☐ Segmental duodenal resection

E ☐ Antacids

F ☐ Aromatherapy

### Question 33

A 64-year-old postmenopausal woman on estrogen therapy has noted worsening swelling of her feet during the past 5 months. She has had increasing dyspnea at night for the past 2 months. She also has chronic arthritis. Her skin has become more darkly pigmented in the last 2 years without sun exposure. On physical examination there is no joint deformity. She has 2+ pitting edema to her thighs. A chest radiograph shows bilateral pleural effusions and pulmonary edema. Laboratory findings include a serum glucose of 196 mg/dL, creatinine 1.7 mg/dL, ferritin 9079 ng/mL, AST 25 U/L, ALT 38 U/L, alkaline phosphatase 49 U/L, total bilirubin 1.2 mg/dL, total protein 5.9 g/dL, and albumin 3.3 g/dL. Which of the following therapeutic approaches is most appropriate for this patient?

A ☐ Begin corticosteroid therapy

B ☐ Stop estrogen therapy

C ☐ Give interferon therapy

D ☐ Control her diabetes mellitus

E ☐ Start regular phlebotomy

### Question 34

A 54-year-old Asian man has had malaise with a 6 kg weight loss over the past 7 months. On physical examination he has a firm, nodular liver edge. His stool is negative for occult blood. Laboratory studies show a positive serology for hepatitis B surface antigen, but negative serologies for hepatitis B surface antibody, hepatitis A IgM antibody, and hepatitis C antibody. His serum alpha-fetoprotein is 109 ng/mL. Which of the following neoplasms is he most likely to have?

A ☐ Hemangioma

B ☐ Hepatic adenoma

C ☐ Hepatic angiosarcoma

- D ☐ Bile duct adenocarcinoma
- E ☐ Cholangiocarcinoma
- F ☐ Hepatocellular carcinoma
- G ☐ Non-Hodgkin lymphoma

#### Question 35

A 38-year-old woman has had episodes of light-headedness, irritability, and difficulty concentrating at her work for the past year. On physical examination there are no abnormal findings. Laboratory studies show her hemoglobin is 14.2 g/dL. An abdominal CT scan shows a 1 cm mass in the tail of the pancreas. Which of the following is the most likely diagnosis?

- A ☐ Cystadenoma
- B ☐ Insulinoma
- C ☐ Adenocarcinoma
- D ☐ Pseudocyst
- E ☐ Pheochromocytoma
- F ☐ Neuroendocrine carcinoma

#### Question 36

A 47-year-old woman has a history of chronic alcohol abuse. She has chronic arthritis for which she has taken over-the-counter medications for the past 5 years. She has developed increasing malaise and nausea for the past week. On physical examination she displays decreased alertness. There are no abdominal masses or evidence for organomegaly. There is no abdominal pain or tenderness. Her stool is negative for occult blood. Laboratory findings include: WBC count 6300/uL, Hgb 12.5 g/dL, Hct 37.2%, MCV 101 fL, platelets 185,000/uL, total protein 6.3 g/dL, albumin 3.3 g/dL, alkaline phosphatase 75 U/L, AST 340 U/L, ALT 330 U/L, lipase 39 U/L, total bilirubin 1.9 mg/dL, and direct bilirubin 0.9 mg/dL. Ingestion of which of the following medications is most likely to have contributed to the development of these findings?

- A ☐ Aspirin
- B ☐ Ibuprofen
- C ☐ Indomethacin
- D ☐ Acetaminophen
- E ☐ Rofecoxib
- F ☐ Morphine
- G ☐ Meperidine

Question 37

A 35-year-old HIV positive woman known has had pain on swallowing for the past week. No abnormal physical examination findings are noted. Upper GI endoscopy is performed. There are 3 sharply circumscribed 0.3 to 0.8 cm ulcers in the lower esophagus. She is most likely to have infection with which of the following organisms?

- A ☐ *Helicobacter pylori*
- B ☐ *Candida albicans*
- C ☐ Herpes simplex virus
- D ☐ *Mycobacterium avium*-complex
- E ☐ Cytomegalovirus
- F ☐ Human herpes virus 8
- G ☐ *Cryptococcus neoformans*

### Question 38

A 30-year-old man has had a low volume, bloody, mucoid diarrhea for 3 weeks accompanied by lower abdominal pain. On physical examination he has no abdominal masses and mild diffuse lower abdominal tenderness. His stool is positive for occult blood. Colonoscopy reveals an erythematous, friable colonic mucosa extending from the rectum to the splenic flexure. Colonic biopsies reveal mucosal ulceration with crypt abscesses. Which of the following complications is he most likely to develop?

- A ☐ Bowel perforation and peritonitis
- B ☐ Fistula formation to the skin
- C ☐ Ischemic bowel necrosis
- D ☐ Colonic adenocarcinoma
- E ☐ Hepatic micronodular cirrhosis

### Question 39

A 43-year-old previously healthy woman has noted bouts of sharp upper abdominal pain along with nausea for 3 weeks. On physical examination she has tenderness to palpation of the right upper quadrant. She has scleral icterus. A liver biopsy is performed and on microscopic examination shows only intracanalicular cholestasis in the centrilobular regions, along with swollen liver cells and portal tract edema. There is no necrosis and no fibrosis. There is no increase in stainable iron. Which of the following is the most likely diagnosis?

- A ☐ Chronic passive congestion
- B ☐ Hepatitis B viral infection
- C ☐ Extrahepatic biliary atresia
- D ☐ Hepatic veno-occlusive disease

E ☐ Choledocholithiasis

#### Question 40

A student fails to use proper disinfection techniques in carrying out his microbiology experiment. Two weeks later, he has spiking fevers and cramping abdominal pain with diarrhea. On physical examination his temperature is 38.3°C, pulse 100/minute, respiratory rate 19/minute, and blood pressure 100/60 mm Hg. He has a palpable spleen tip and diffuse abdominal pain without masses. Laboratory studies show a WBC count of 2330/microliter, Hgb 13.8 g/dL, and platelet count 282,000/microliter. Which of the following organisms was he most likely using in his experiment?

- A ☐ *Aspergillus niger*
- B ☐ *Entameba histolytica*
- C ☐ *Shigella flexneri*
- D ☐ *Clostridium difficile*
- E ☐ *Yersinia enterocolitica*
- F ☐ *Staphylococcus aureus*
- G ☐ Rotavirus
- H ☐ *Salmonella typhi*

#### Question 41

A 41-year-old man is found in an obtunded state and taken to the hospital. On admission physical examination he is icteric. His abdomen is enlarged with a fluid wave. An abdominal CT scan shows extensive intraperitoneal fluid and a uniformly enlarged liver that has decreased attenuation (decreased brightness). Laboratory studies show total protein 6.5 g/dL, albumin 2.8 g/dL, total bilirubin 4.8 mg/dL, AST of 563 U/L, ALT 317 U/L, alkaline phosphatase 55 U/L, and ammonia 91 micromol/L. A liver biopsy is performed and microscopically demonstrates abundant Mallory hyaline, neutrophilic infiltrates, hepatocyte necrosis, portal fibrosis, and extensive macrovesicular steatosis. Which of the following is the most likely diagnosis?

- A ☐ Autoimmune hepatitis
- B ☐ Sclerosing cholangitis
- C ☐ Alcoholic hepatitis
- D ☐ Hepatitis B virus infection
- E ☐ Diabetes mellitus

#### Question 42

A 70-year-old previously healthy man notes blood-streaked stool for the past 2 days. On physical examination his stool is positive for blood, though a lesion cannot be palpated by digital rectal examination. There are no palpable abdominal masses or organomegaly. There is no abdominal tenderness, and bowel sounds are active. An appendectomy scar is present in the right lower quadrant. A colonoscopy is performed, and there is an area of obstruction from an encircling mass with superficial ulceration that is located at 20 cm above the anal verge. Which of the following risk factors was most likely to have been present for development of this lesion?

- A ☐ Human papillomavirus infection
- B ☐ Crohn disease
- C ☐ High fat diet
- D ☐ Diverticulosis

E ☐ Prior abdominal surgery

#### Question 43

A 3 month old male infant was born at term with no congenital anomalies. His mother has noted marked abdominal enlargement along with infrequent bowel movements for the past week. On physical examination his abdomen is distended but there does not appear to be appreciable tenderness. A plain film abdominal radiograph reveals marked colonic dilation. What pathologic finding is most likely to be present in this infant?

A ☐ Aganglionic colonic segment

B ☐ congenital bowel malrotation

C ☐ Cecal volvulus

D ☐ Ileal intussusception

E ☐ Meconium ileus

F ☐ Rhabdomyosarcoma

#### Question 44

A 60-year-old man has worsening dyspnea and swelling of his legs for the past month. On physical examination he has pitting edema to the hips as well as sacral edema. Diffuse rales are present in all lung fields. He is afebrile and normotensive. A chest radiograph shows a markedly enlarged heart along with pulmonary edema and bilateral pleural effusions. He develops abdominal pain. His stool is positive for occult blood. Which of the following is most likely to produce this finding in his bowel?

A ☐ Adenocarcinoma

B ☐ Venous thrombosis

C ☐ Volvulus

D ☐ Incarcerated hernia

E ☐ Ischemia



### Question 45

A 42-year-old man has been an intravenous drug user of heroin for 20 years. He has noted blood-streaked stool on defecation for the past week. On physical examination there are needle tracks in his left antecubital fossa. He is afebrile. Which of the following is the most likely diagnosis?

- A ☐ Hemorrhoids
- B ☐ Megacolon
- C ☐ Angiodysplasia
- D ☐ Perirectal fistulae
- E ☐ Adenocarcinoma

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	B	10	E	19	C	28	A	37	C
2	B	11	C	20	E	29	C	38	D
3	C	12	C	21	E	30	C	39	E
4	B	13	A	22	B	31	B	40	H
5	A	14	D	23	F	32	C	41	C
6	A	15	D	24	B	33	E	42	C
7	C	16	B	25	A	34	F	43	A
8	B	17	D	26	B	35	B	44	E
9	C	18	A	27	D	36	D	45	A