

General Medicine - Surgery

IV year

1. Overall mortality rate in case of acute appendicitis is:
 - A. 10-20%;
 - B. 5-10%;
 - C. 0,2-0,8%;
 - D. 1-5%;
 - E. 25%.

2. Name the destructive form of appendicitis.
 - A. Appendicular colic;
 - B. Superficial;
 - C. Appendix hydrops;
 - D. Phlegmonous;
 - E. Catarrhal appendicitis.

3. Koher sign is:
 - A. Migration of the pain from the epigastrium to the right lower quadrant;
 - B. Pain in the right lower quadrant;
 - C. One time vomiting;
 - D. Pain in the right upper quadrant;
 - E. Pain in the epigastrium.

4. In cases of appendicular infiltration is indicated:
 - A. Laparoscopic appendectomy;
 - B. Conservervative treatment;
 - C. Open appendectomy;
 - D. Draining;
 - E. Laparotomy.

5. In cases of appendicular abscess is indicated:
 - A. Laparoscopic appendectomy;
 - B. Conservervative treatment;
 - C. Open appendectomy;
 - D. Draining, if possible - appendectomy;
 - E. Ileo-cecal resection.

6. A 34-year-old female patient suffered from abdominal pain week ago; no other gastrointestinal problems were noted. On clinical examination, a mass of about 6 cm was palpable in the right lower quadrant, appeared hard, not reducible and fixed to the parietal muscle. CBC: leucocyts – $7,5 \cdot 10^9/l$, ESR – 24 mm/hr. Temperature $37,4^\circ C$. Make the diagnosis?
 - A. Appendicular colic;
 - B. Appendicular hydrops;
 - C. Appendicular infiltration;
 - D. Appendicular abscess;
 - E. Peritonitis.

7. A 34-year-old female patient suffered from abdominal pain week ago; no other gastrointestinal problems were noted. On clinical examination, a mass of about 6 cm was palpable in the right lower quadrant, appeared hard, not reducible and fixed to the parietal muscle. CBC: leucocyts – $7,5 \cdot 10^9/l$, ESR – 24 mm/hr. Temperature $37,4^\circ C$. Triple antibiotic therapy with cefotaxime, amikacin and tinidazole was very effective. After 10 days no mass in abdominal cavity was palpated. What time term is optimal to perform appendectomy?
 - A. 1 week;
 - B. 2 weeks;
 - C. 3 month;
 - D. 1 year;
 - E. 2 years.

8. What instrumental method of examination is the most efficient in case of portal pyelophlebitis?
 - A. Plain abdominal film;
 - B. Barium meal;
 - C. US;
 - D. Termography;
 - E. Doppler ultrasound.

9. The complications of acute appendicitis are all, except:
 - A. Appendicular infiltration;
 - B. Appendicular abscess;
 - C. Enzyme peritonitis;
 - D. Pyelophlebitis;
 - E. Sepsis.

10. A 63-year-old male patient in reasonably good health suddenly suffered from fever ($>38^\circ C$) and a painful right iliac fossa tumefaction; no other gastrointestinal

problems were noted. On clinical examination, a mass of about 5 cm was palpable in correspondence of right iliac fossa and appeared hard, not reducible and fixed to the parietal muscle. Laboratory data showed leucocytosis, shift to the left and elevated erythrocyte sedimentation rate (74 mm/hr) as pathological findings. Abdominal ultrasound examination evidenced a fluid in the right lower quadrant, with heterogenic echotexture and a thickening of the ileocecal tract. Abdominal CT, confirmed the presence of a complex, predominantly cystic, mass of large size (6×8 cm) with heterogeneous, mainly peripheral enhancement, the adjacent cecum had its wall thickened and it was not possible to differentiate the appendix separately from the mass, homolateral inguinal reactive lymphadenopathy was also present. The patient failed to respond to the initial conservative management, which consisted of intravenous fluids and triple antibiotic therapy with cefotaxime, gentamicin and metronidazole, without any improvement of pain and fever. At a further ultrasound examination, the mass appeared not modified. Make the diagnosis?

- A. Appendicular infiltration;
- B. Appendicular abscess;
- C. Peritonitis;
- D. Appendicular colic;
- E. Phlegmonous appendicitis;

11. A 17-year-old female model presents to the emergency room with a 1-day history of lower abdominal pain. On examination she is most tender in the right lower quadrant (RLQ) and also has pelvic tenderness. White blood cell (WBC) count is $13 \times 10^9/l$ and temperature is $38,2^\circ C$. A provisional diagnosis of uncomplicated appendicitis is made and laparoscopic appendectomy is offered. Regarding laparoscopic appendectomy which of the following is TRUE?
- A. It can be performed safely with minimal morbidity compared to open technique.
 - B. Length of hospital stay is longer than with open technique.

- C. Posthospital recovery can be shorter in uncomplicated appendicitis.
- D. Return to full feeding is less than with open technique.
- E. Wound complication rate is greater with open technique.

12. A 79-year-old man has had abdominal pain for 4 days. An operation is performed, and a gangrenous appendix is removed. The stump is inverted. Why does acute appendicitis in elderly patients and in children have a worse prognosis?
- A. The appendix is retrocecal.
 - B. The appendix is in the preileal position.
 - C. The appendix is in the pelvic position.
 - D. The omentum and peritoneal cavity appear to be less efficient in localizing the disease in these age groups.
 - E. The appendix is longer in these age groups.
13. A 12-year-old boy complains of pain in the lower abdomen (mainly on the right side). Symptoms commenced 12 hours before admission. He had noted anorexia during this period. Examination revealed tenderness in the right iliac fossa, which was maximal 1 cm below McBurney's point. In appendicitis, where does the pain frequently commence?
- A. In the umbilical region and then moves to the right iliac fossa
 - B. In the back and moves to the right iliac fossa
 - C. In the rectal region and moves to the right iliac fossa
 - D. In the right iliac fossa and remains there
 - E. In the right flank
14. On examination, patients presenting with appendicitis typically show maximal tenderness over which of the following?
- A. Inguinal region
 - B. Immediately above the umbilicus
 - C. At a point between the outer one-third and inner two-thirds of a line between the umbilicus and the anterior superior iliac spine

- D. At a point between the outer two-thirds and inner one-third of a line between the umbilicus and the anterior superior iliac spine
- E. At the midpoint of a line between the umbilicus and the anterior superior iliac spine
15. A 29-year-old woman presents to her physician's office with pain in the right iliac fossa. Examination reveals tenderness in this region. Her last menstrual cycle was 2 weeks previously. CBC: leukocyte count – $7,2 \times 10^9/l$, RBC – $2,9 \times 10^{12}/l$, Hb – 105 g/l. Make the diagnosis.
- Acute superficial appendicitis
 - Ovarian apoplexy
 - Renal colic
 - Acute destructive appendicitis
 - Acute pancreatitis
16. A 28-year-old man is admitted to the emergency department complaining of pain in the umbilical region that moves to the right iliac fossa. Which is a corroborative sign of acute appendicitis?
- Referred pain in the right side with pressure on the left (Rovsing) sign
 - Increase of pain with testicular elevation
 - Relief of pain in lower abdomen with extension of thigh
 - Relief of pain in lower abdomen with internal rotation of right thigh
 - Hyperesthesia in the right lower abdomen
17. At open operation a normal appendix is found, no other pathology in abdominal cavity. What is the most common procedure a surgeon should do if he finds a normal appendix?
- Evaluate the pelvis for tuboovarian abscess pelvic inflammatory disease, malignancy or ectopic pregnancy
 - Removal of appendix
 - Evaluate the terminal ileum and cecum for signs of regional or bacterial enteritis
 - Evaluate the upper abdomen for cholecystitis or perforated duodenal ulcer
 - Evaluate for Meckel's diverticulum
18. M., 68-year old man, 14 hours ago appeared continuous pain in the RLQ, 2 hours ago pain decreased significantly. The diagnosis of acute appendicitis was made. What morphological form acute appendicitis we must suspect?
- Gangrenous;
 - Superficial;
 - Appendix hydrops;
 - Phlegmonous;
 - Appendicular colic.
19. A 20-year-old man has undergone appendectomy for perforated appendicitis with generalized peritonitis. Seven days postoperatively, his temperature continues to spike to $39,5^{\circ}\text{C}$ despite antibiotic therapy with ampicillin, gentamicin, and metronidazole. Abdominal CT scan reveals a large pelvic abscess. Soon afterward, he has bleeding from the mouth and nose with increasing oozing from the surgical wound and all intravenous puncture sites. What is the most likely diagnosis?
- Anaphylactoid reaction to intravenous dye;
 - Antibiotic-induced coagulopathy
 - Disseminated intravascular coagulation
 - Liver failure ;
 - Congenital bleeding disorder.
20. A 20-year-old man has undergone appendectomy for perforated appendicitis with generalized peritonitis. Seven days postoperatively, his temperature continues to spike to $39,5^{\circ}\text{C}$ despite antibiotic therapy with ampicillin, gentamicin, and metronidazole. Abdominal CT scan reveals a large pelvic abscess. Soon afterward, he has bleeding from the mouth and nose with increasing oozing from the surgical wound and all intravenous puncture sites. What was a

- trigger for coagulopathy?
- Sepsis;
 - Antibioticotherapy;
 - Congenital disorder;
 - Proteolysis;
 - Operation.
- All listed below locations of appendix concerning cecum are correct, EXCEPT:
 - medial
 - retrocecal
 - subhepatic
 - pelvic
 - intermediate
 - Appendicular artery is the branch of:
 - a. ileocolica
 - a. mesenterica inferior
 - a. hepatica communis
 - celiac trunk
 - a. iliaca interna
 - What is the Clado ligament?
 - lig. appendico-ovaricum
 - lig. appendico-cecalis
 - lig. appendico-transversum
 - lig. circularis appendicis
 - lig. longitudinalis appendicis
 - Classification proposed by V.I. Kolesov in 1972, is based on clinical course of disease and includes FOUR items. They are all, EXCEPT:
 - Appendicular colic
 - Simple appendicitis: superficial, catarrhal
 - Destructive appendicitis: phlegmonous, gangrenous, perforating
 - Complications of acute appendicitis: appendicular infiltrate, appendicular abscess, diffuse peritonitis
 - Purulent complications: abscesses, sepsis
 - Which statement, concerning acute appendicitis, is NOT TRUE?
 - The tip of the appendix can be located anywhere in the right lower quadrant of the abdomen or pelvis
 - Appendicitis occurs rarely in very young children and elderly persons.
 - Luminal obstruction leads to secretion of mucus and fluid with the rise in luminal pressure causing ischemia of the wall of appendix
 - In general, patients with appendicitis report nausea and loss of appetite
 - Migration of the pain from epigastric or paraumbilical region to right lower quadrant is a sign of patient's recovery
 - Typically, in the case of acute appendicitis, symptoms of the disease include: 1) rebound tenderness (Blumberg's sign) in the RLQ, 2) hematuria, 3) pain in the RLQ, 4) involuntary guarding, 5) normal body temperature. Choose the RIGHT combination.
 - 1, 3, 4
 - 1, 2, 4
 - 1, 2, 5
 - 2, 3, 5
 - 3, 4, 5
 - Which sign reflects pelvic location of the appendix?
 - Rovsing's sign
 - Blumberg's sign
 - psoas sign
 - obturator sign
 - Koher's sign
 - You will perform all listed laboratory tests to make the diagnosis and differential diagnosis of acute appendicitis, EXCEPT?
 - white blood cell (WBC) count
 - urinalysis
 - serum liver enzymes and amylase levels
 - serum HCG (human chorionic gonadotropin) level in women of childbearing age
 - serum protein
 - Which statement, concerning acute appendicitis, is WRONG?
 - Perforation of the appendix is accompanied with a sharp abdominal pain

- B. Acute appendicitis with pelvic location of the appendix is always characterized by clear clinical picture and typical course
- C. Often the patients, with acute appendicitis with pelvic location of the appendix, have diarrhea and/or dysuria
- D. White blood cells (WBC) are usually elevated in patients with acute appendicitis
- E. Infiltrate is being formed on 3-5 days of the disease
30. On the 10th day after the admission to the surgical department patient develops suppuration of appendicular infiltrate. In this case, clinical picture will include all symptoms, EXCEPT:
- pain in the region of abdominal mass
 - fatigue
 - headache
 - hectic fever
 - breathlessness
31. In attempting to minimize complications during cholecystectomy, the surgeon defines the triangle of Calot during the operation. The boundaries of the triangle of Calot (modified) are the common hepatic duct medially, the cystic duct inferiorly, and the liver superiorly. Which structure courses through this triangle ?
- Left hepatic artery
 - Right renal vein
 - Right hepatic artery
 - Cystic artery
 - Superior mesenteric vein
32. A 65-year-old woman is admitted with RUQ pain radiating to the right shoulder, accompanied by nausea and vomiting. Examination reveals tenderness in the RUQ and a positive Murphy's sign. A diagnosis of acute (uncomplicated) cholecystitis is made. What is the most likely finding?
- Serum bilirubin levels may be elevated
 - Cholelithiasis is present in 90% of all cases
 - Bacteria are rarely found at operation
 - An elevated amylase level excludes this diagnosis
 - A contracted gallbladder is noted on ultrasound
33. A 38-year-old male lawyer develops abdominal pain after having a fatty meal. Examination reveals tenderness in the right hypochondrium and a positive Murphy's sign. Which test is most likely to reveal acute cholecystitis?
- US of the abdomen
 - Oral cholecystogram
 - Intravenous cholangiogram
 - Abdominal x-ray
 - ERCP
34. A 48-year-old woman is admitted to the hospital with severe abdominal pain, tenderness in the right hypochondrium, and a WBC count of $12 \times 10^9/l$. Acute cholecystitis is established. After diagnosis, cholecystectomy should be performed within which of the following?
- 20–60 minutes
 - The first 1-2 days following hospital admission
 - 8 days
 - 3 weeks
 - 3 months
35. A 60-year-old diabetic man is admitted to the hospital with a diagnosis of acute cholecystitis. The WBC count is $28 \times 10^9/l$, and a plain film of the abdomen and CT scan show evidence of intramural gas in the gallbladder. What is the most likely diagnosis?
- Gallstone ileus
 - Acalculous cholecystitis
 - Cholangiohepatitis
 - Sclerosing cholangitis
 - Emphysematous gallbladder
36. A 60-year-old woman is recovering from a major pelvic cancer operation and develops severe abdominal pain and sepsis. Acute cholecystitis is established, laparotomy is performed. The gallbladder is severely inflamed and removed. There is no evidence of gallbladder stones (acalculous cholecystitis).

- Cholecystectomy is performed. Which is true of acalculous cholecystitis?
- It is usually associated with stones in the CBD.
 - It occurs in 80–90% of cases of cholecystitis.
 - It has a more favorable prognosis than calculous cholecystitis.
 - It is increased in frequency after trauma or operation.
 - It is characterized on US scan by enlarged cystic duct.
37. Following recovery in the hospital from a fracture of the femur, a 45-year-old female patient develops RUQ abdominal pain and fever. She has tenderness in the right subcostal region. There is evidence of progressive sepsis and hemodynamic instability. The WBC count is $24 \times 10^9/l$. A bedside sonogram confirms the presence of acalculous cholecystitis. What should treatment involve?
- Intravenous antibiotics alone
 - ERCP
 - Percutaneous drainage of the gallbladder
 - Urgent cholecystectomy
 - Elective cholecystectomy after 3 months
38. Following recovery in the hospital from a fracture of the femur, a 75-year-old nursing home female patient develops RUQ abdominal pain and fever. She has tenderness in the right subcostal region. There is evidence of progressive sepsis and hemodynamic instability. The WBC count is $24 \times 10^9/l$. A bedside sonogram confirms the presence of acalculous cholecystitis. What should treatment involve?
- Intravenous antibiotics alone
 - Percutaneous drainage of the gallbladder
 - ERCP
 - Urgent cholecystectomy
 - Elective cholecystectomy after 3 months
39. The gallbladder consists of following parts, EXCEPT:
- Fundus
 - Body
 - Infundibulum
 - Neck
 - Cardia
40. Sometimes small accessory bile duct may drain directly into the gallbladder. The name of this duct is?
- Cholecystohepatic duct of Luschka
 - Cholecystohepatic duct of Laschtuvka
 - Cholecystohepatic duct of Linka
 - Cholecystohepatic duct of Calot
 - Cholecystohepatic duct of Koher
41. Different hormones regulate function of the gallbladder. Choose all of them: 1). Vasoactive intestinal polypeptide; 2). Cholecystokinin; 3). Thyroxine; 4). Lipase; 5). Motilin.
- 1, 2, 3
 - 1, 2, 5
 - 1, 3, 4
 - 3, 4, 5
 - 2, 3, 4
42. What is the most common symptom related to acute cholecystitis?
- RUQ abdominal pain
 - Jaundice
 - Fever
 - Nausea and vomiting
 - Weight loss
43. Which condition does NOT predispose to gallstone formation?
- Concentrated bile
 - Increased gallbladder motility
 - Female sex
 - Obesity
 - Previous truncal vagotomy
44. Patient, who suffers from acute cholecystitis, can have all listed below symptoms, EXCEPT:
- Nausea and vomiting
 - Anorexia
 - Fever
 - Arterial hypotension
 - RUQ pain

45. Physical examination in patient with acute cholecystitis, can reveal all signs, EXCEPT:
- Guarding and rebound tenderness in the RUQ
 - Positive Murphy's sign
 - Painful mass in the RUQ
 - Positive Blumberg's in the RUQ
 - Absence of liver dullness
46. Which statement concerning imaging studies in patients with acute cholecystitis is WRONG?
- The most important value of plain abdominal film is exclusion of other abdominal pathology (perforated peptic ulcer)
 - Ultrasound of the abdomen is an effective method for identifying gallstones in case of acute cholecystitis
 - Gallstones and bile appear nearly isodense on CT
 - Cholangiography is the most accurate method the extrahepatic biliary tree visualization
 - All patients with acute cholecystitis should undergo MRI
47. The most efficient noninvasive instrumental method of examination in case of acute cholecystitis is:
- Oral cholecystography
 - Ultrasonography
 - Termography
 - GIT X-ray examination
 - IV cholangiography
48. Which signs are positive in patients with acute cholecystitis?
- Ortner, Kehr, Murphy
 - Kocher, Sitkovski, Rovzing
 - Pasternatski
 - Mayo-Robson
 - Cullen, Grey Turner
49. Normal diameter of CBD is:
- up to 25 mm
 - up to 15 mm
 - up to 10 mm
 - up to 20 mm
 - up to 5 mm
50. Normal diameter of cystic duct is:
- 2 mm
 - 3-4 mm
 - 10-12 mm
 - 20 mm
 - 8-9 mm
51. Choose the reasons which are responsible for gallstones formation during the pregnancy:
- Hyperestrogenemia, cholestasis
 - Decreased duodenal motility
 - Increased gallbladder motility
 - Decreased liver function
 - Hyperglycemia
52. What type of bile stones didn't exist?
- Cholesterol
 - Pigment
 - Mixed
 - Calcium
 - Protein
53. At abdominal examination: patient is asked to breathe out and then physician gently place the hand below the costal margin on the right side at the mid-clavicular line, the patient is then instructed to breathe in. If the patient stops breathing in the test is considered positive. Name this test?
- Murphy's sign
 - Kehr's sign
 - Blumberg's sign
 - Rovsing's sign
 - Psoas sign
54. Patient: 44 years female. Three weeks ago felt acute pain in right upper quadrant after fatty food, spasmolitics were efficient. Complaints on admission: dull pain in right upper quadrant. Examination: temperature 36,8°C, soft mass palpated in Kehr point. CBC: WBC – $6,8 \times 10^9/l$. US: very large gallbladder with thin wall, stone 15 mm in diameter obstructing it, common bile duct 7 mm in diameter. Make the diagnosis?
- Acute cholecystitis;
 - Biliary pancreatitis;
 - Gallbladder hydropsia;
 - Cholangitis;
 - Mechanical jaundice.

55. The management in case of acute cholecystitis complicated with choledocholithiasis should be?
- Conventional cholecystectomy;
 - Laparoscopic cholecystectomy;
 - Cholecystostomy;
 - ERCP, sphincterotomy, cholecystectomy;
 - Conservative treatment.
56. To what complication can lead acute obstructive cholecystitis?
- Cancer of pancreatic gland;
 - Pleural empiema;
 - Gallbladder empiema;
 - Perforative duodenal ulcer;
 - Acute bowel obstruction.
57. Which complication of acute cholecystitis develops, when the patient have jaundice, high temperature ($>38^{\circ}\text{C}$), pain in upper right quadrant, sweating:
- Acute pancreatitis;
 - Bile duct fistula;
 - Gallbladder empiema;
 - Duodenal ulcer;
 - Cholangitis.
58. An 85-year-old man is brought to the hospital with a 2-day history of nausea and vomiting. He has not passed gas or moved his bowels for the last 5 days. Abdominal films show dilated small bowel, no air in the rectum and air in the biliary tree. Which of the following statements is TRUE?
- Air in the biliary tree associated with small-bowel obstruction suggests a diagnosis of gallstone ileus;
 - An enterotomy should be distal to the site of obstruction and the stone should be removed;
 - Gallstone ileus is more common in the young adults;
 - Cholecystectomy is contraindicated;
 - Small-bowel obstruction usually occurs in the distal jejunum.
59. An intraoperative cholangiogram is performed during an elective laparoscopic cholecystectomy on a 30-year-old woman. She has no previous surgical history. There is a 0.8-cm filling defect in the distal common bile duct (CBD). The surgeon should:
- Complete the laparoscopic cholecystectomy and check liver function tests (LFTs) postoperatively. If they are normal, no further treatment is needed
 - Complete the laparoscopic cholecystectomy and repeat an ultrasound postoperatively. Observe the patient if no CBD stone is visualized
 - Perform a CBD exploration either laparoscopically or open along with a cholecystectomy
 - Complete the laparoscopic cholecystectomy, no further treatment is necessary
 - Complete the laparoscopic cholecystectomy and plan for a postoperative hydroxy iminodiacetic acid (HIDA) scan
60. A 42-year-old accountant presents with recurrent RUQ pain of 3-year duration. He had undergone a laparoscopic cholecystectomy 2-years ago for presumed symptomatic cholelithiasis, but the pain persisted. An upper GI endoscopy is normal. A sonogram and CT scan of the abdomen are normal. An ERCP is performed, and the pressure in the CBD is 45-cm saline (normal bile duct pressure is 10–18-cm saline). What is the most likely diagnosis?
- Acalculous cholecystitis
 - Emphysematous cholecystitis
 - Biliary dyskinesia
 - Cancer of the gallbladder
 - Myasthenia gravis
61. A 42-year-old accountant presents with recurrent RUQ pain of 3-year duration. He had undergone a laparoscopic cholecystectomy 2-years ago for presumed symptomatic cholelithiasis, but the pain persisted. An upper GI endoscopy is normal. A sonogram and CT scan of the abdomen are normal. An ERCP is performed, and the

pressure in the CBD is 45-cm saline (normal bile duct pressure is 10–18-cm saline).

Choose the best treatment option:

- A. Calcium channel blockers, if not effective an endoscopic sphincterotomy
 - B. Antibiotics, if not effective an endoscopic sphincterotomy
 - C. Analgesics, if not effective an endoscopic sphincterotomy
 - D. β -blockers, if not effective an endoscopic sphincterotomy
 - E. No treatment
62. A 43-year-old woman undergoes open cholecystectomy. Intraoperative cholangiogram revealed multiple stones in the CBD. Exploration of the CBD was performed to extract gallstones. The CBD was drained with a #18 T-tube. After 10 days, a T-tube cholangiogram reveals a retained CBD stone. This should be treated by which of the following?
- A. Laparotomy and CBD exploration
 - B. Subcutaneous heparinization
 - C. Antibiotic therapy for 6 months and then reevaluation
 - D. ERCP, endoscopic sphincterotomy, CBD exploration
 - E. Ultrasound crushing of the CBD stone
63. A 62-year-old woman who underwent cholecystectomy and choledochoduodenostomy (CBD duodenal anastomosis) 5 years previously is admitted to the hospital with a 3-day history of upper abdominal pain, chills, fever, and dark urine. Make the diagnosis:
- A. Ascending cholangitis
 - B. Cancer of gallbladder
 - C. Acute gastritis
 - D. Acute biliary pancreatitis
 - E. Liver abscess
64. A 62-year-old woman who underwent cholecystectomy and choledochoduodenostomy (CBD duodenal anastomosis) 5 years previously is admitted to the hospital with a 3-day history of upper abdominal pain, chills, fever, and dark urine.
- What laboratory finding that supports diagnosis ascending cholangitis?
- A. Amylase elevation with normal findings on liver studies
 - B. Alkaline phosphatase elevation with normal or elevated normal bilirubin levels
 - C. Elevated serum glutamic oxaloacetic transaminase (SGOT) levels
 - D. Altered urea/creatinine ratio
 - E. Urobilin in urine
65. An 70-year-old male presents with a clinical diagnosis of acute cholangitis. Which organism is most likely involved in the pathogenesis of ascending cholangitis?
- A. *Clonorchis sinensis*
 - B. *Escherichia coli*
 - C. *Salmonella*
 - D. *Staphylococcus aureus*
 - E. *Clostridia*
66. Following admission to the hospital for intestinal obstruction, a 48-year-old woman states that she previously had undergone cholecystectomy and choledochoduodenostomy. The most likely indication for the performance of the choledochoduodenostomy was:
- A. Hepatic metastasis were present
 - B. Multiple stones were present in the gallbladder at the previous operation
 - C. Multiple stones were present in the CBD at the previous operation
 - D. The common hepatic duct had a stricture
 - E. The small intestine was occluded
67. In attempting to minimize complications during cholecystectomy, the surgeon defines the triangle of Calot during the operation. The boundaries of the triangle of Calot (modified) are the common hepatic duct medially, the cystic duct inferiorly, and the liver superiorly. Which structure courses through this triangle?
- A. Left hepatic artery
 - B. Right renal vein
 - C. Right hepatic artery

- D. Cystic artery
E. Superior mesenteric vein
68. A 55-year-old white female undergoes a laparoscopic cholecystectomy for symptomatic cholelithiasis. The operation went well, and the patient was discharged home. One week later, she comes to your office for a routine postoperative follow-up. The final pathology report shows an incidental finding of a gallbladder carcinoma confined to the mucosa. In further advising the patient, you should inform her that
- She should undergo radiation therapy
 - She should undergo right hepatectomy to remove locally infiltrating disease
 - She should undergo regional lymphadenectomy
 - She requires systemic chemotherapy
 - She does not require any further therapy
69. Acute cholangitis is characterized by three symptoms known as *Charcot's triad*. They are: 1). Weight loss; 2). RUQ abdominal pain; 3). Jaundice; 4). Nausea and vomiting; 5). Fever. Choose the correct combination.
- 1, 2, 3
 - 1, 3, 4
 - 1, 4, 5
 - 2, 3, 5
 - 2, 4, 5
70. *Reynolds pentad* known as symptoms in patients with severe acute cholangitis. Which symptom do NOT belong to Reynold's pentad?
- Altered mental status
 - Arterial hypotension
 - Jaundice
 - Nausea and vomiting
 - Fever
71. Cholangiography is the most accurate and sensitive method of biliary tree visualization. Diagnostic cholangiogram can be performed in different ways. Name them? 1). Percutaneously; 2). Endoscopically; 3). Intraoperatively; 5).
- Intravenous. Choose the most complete answer.
- 1, 2, 3
 - 1, 3, 4
 - 1, 4, 5
 - All are correct
 - 2, 4, 5
72. Acute cholangitis is a bacterial infection and most commonly is associated with: 1. Gallstones; 2. Acute hepatitis; 3. Malignant tumor of CBD; 4. Truncal vagotomy; 5. Stricture of the CBD. Choose the correct combination.
- 1, 2, 3
 - 1, 3, 4
 - 2, 4, 5
 - 1, 3, 5
 - 2, 4, 5
73. Which factors play important role in the pathogenesis of acute cholangitis? 1. Biliary tract obstruction; 2. Elevated intraluminal pressure; 3. Decreased bile production by hepatocytes 4. Decreased serotonin serum level; 5. Infection of the bile. Choose the correct combination.
- 1, 2, 3
 - 2, 3, 4
 - 3, 4, 5
 - 1, 2, 5
 - 1, 4, 5
74. Which condition is NOT associated with higher morbidity and mortality rate in patients with acute cholangitis:
- Hypotension
 - Acute renal failure
 - Liver abscess
 - Liver cirrhosis
 - Age less than 50 years
75. Which symptom together with Charcot's triad is associated with acute cholangitis:
- Coffee round vomitus
 - Pruritus
 - Hypertention
 - Diarrhea
 - Constipation
76. Which of the following DOESN'T increase the risk of cholangitis:

- A. CBD stones confirmed on US
 B. Recent cholecystectomy
 C. Recent ERCP
 D. History of cholangitis in the past medical history
 E. Recent appendectomy
77. In patients with cholangitis at physical examination you can reveal the following: 1. RUQ tenderness; 2. Fever; 3. Mental status changes; 4. Hypotension; 5. Tachycardia. Choose the correct combination.
 A. 1, 2, 3
 B. 2, 3, 4
 C. 3, 4, 5
 D. All are correct
 E. 1, 4, 5
78. Which statement, regarding acute cholangitis, is NOT true?
 A. Partial obstruction is associated with a higher rate of infection than complete obstruction
 B. The bile is normally sterile
 C. In case of cholangitis obstruction of the common bile duct occurs secondary to ascending infection
 D. The male-to-female ratio is equal in cholangitis
 E. The median age at presentation is between 50 and 60 years.
79. Which tumor does NOT cause cholangitis?
 A. Pancreatic cancer
 B. Cholangiocarcinoma
 C. Ampullary cancer
 D. Porta hepatis tumors
 E. Hepatocellular carcinoma
80. Which disease is NOT responsible for the development of cholangitis?
 A. Strictures or stenosis of ampulla Vateri
 B. Endoscopic manipulation of the CBD
 C. AIDS cholangiopathy
 D. Ascaris lumbricoides infections
 E. Later dumping syndrome
81. What changes in laboratory tests can be found in patients with acute cholangitis? 1. Elevated bilirubin; 2. Elevated alkaline phosphatase; 3. Elevated C-reactive protein; 4. Elevated ESR; 5. Leukocytosis
 A. All are present
 B. 1, 2, 3
 C. 1, 3, 5
 D. 1, 2, 4
 E. 2, 4, 5
82. On X-ray film air in the biliary tree was detected, which condition does NOT cause this?
 A. Recent papillotomy
 B. Emphysematous cholecystitis
 C. Cholangitis
 D. Cholecystic-enteric fistula
 E. Gallbladder hydropsia
83. Which disorder can cause gallbladder mucocele? 1. Impacted stone in the gallbladder neck or cystic duct; 2. Spontaneously resolved acute cholecystitis; 3. Tumors of the CBD; 4. Extrinsic compression of cystic duct by lymph nodes; 5. Ascending cholangitis. Choose the correct combination.
 A. 1, 2, 3
 B. 2, 3, 5
 C. 3, 4, 5
 D. 1, 2, 4
 E. 1, 4, 5
84. Which statement concerning gallbladder hydrops is WRONG?
 A. Acute inflammation is absent
 B. A large, painful gallbladder is found on physical examination
 C. Laboratory test are normal
 D. Ultrasonography of the RUQ shows an impacted stone in the neck of an enlarged gallbladder
 E. Intraoperatively, the aspirate from the gallbladder is clear fluid (white bile)
85. The gallbladder hydrops may develop all complication, listed below EXCEPT:
 A. Empyema of the gallbladder
 B. Perforation of the gallbladder
 C. Gastric outlet obstruction
 D. Cholecystenteric fistula
 E. GIT bleeding
86. Calculous cholecystitis may develop biliodigestive fistula, which can cause

gallstone ileus. In this case fistula is a connection between gallbladder and..? 1. Duodenum; 2. Sigmoid colon; 3. Transversus colon; 4. Stomach; 5. Bladder. Choose the correct combination.

- A. 1, 2, 3
 B. 1, 3, 4
 C. 3, 4, 5
 D. 1, 2, 5
 E. 2, 4, 5
87. What hormone produces β -cells of pancreatic gland:
 A. Somatostatin;
 B. Somatotropin;
 C. Insulin;
 D. Glucagon;
 E. Pancreozymin.
88. Which ethiological factors causes acute pancreatitis most oftenly?
 A. Abdominal trauma, alimentary factor;
 B. Gallstones, alcohol;
 C. Hypercalcemia, hyperlipidemia;
 D. Drugs, toxins;
 E. ERCP, sphincter of Oddi disfunction.
89. Which thesis is correct according to pathogenesis of acute pancreatitis?
 A. Intrapancreatic enzyme's activation;
 B. Pancreatic gland autolysis;
 C. Neutrophils chemoactivation, infiltration and inflammation;
 D. SIRS;
 E. All are correct.
90. A 52-year-old male, without alcohol history, admitted to hospital with acute pain in epigastrium, radiating to the back. Amylase level elevated. Which radiological findings will help diagnosing acute pancreatitis?
 A. Changes in liver on CT scans;
 B. Choledocholithiasis on US;
 C. Stomach shifted anteriorly on contrast examination of GIT;
 D. Cloiber cups on plain abdominal film;
 E. Air below diaphragm on plain abdominal film.
91. What is the volume of pancreatic juice produced in 24 hours?
 A. 200-500 ml;
 B. 100-200 ml;
 C. 500-1000 ml;
 D. 700 ml;
 E. 2500 ml
92. What instrumental examination should be performed to diagnose necrotizing pancreatitis?
 A. US;
 B. ECRP;
 C. Plain abdominal film;
 D. Blood gases;
 E. CT.
93. A 60-year-old alcoholic is admitted to the hospital with a diagnosis of acute pancreatitis. Upon admission, his white blood cell (WBC) count is $21 \times 10^9/l$. His lipase, lactate dehydrogenase and aspartate aminotransferase are elevated, blood glucose is 10 mmol/L. Which of the following is TRUE?
 A. This patient is expected to have a mortality rate of less than 5%
 B. The patient's lipase level is not important indication of prognosis
 C. This patient requires immediate surgery
 D. A venous blood gas would be helpful in assessing the severity of illness in this patient
 E. A serum calcium level of 1.7 mmol/L on the second hospital day is a bad prognostic sign
94. A 40-year-old alcoholic male is admitted with severe epigastric pain radiating to the back. Serum amylase level is reported as normal (fluoroscopic method), but serum lipase is elevated. The serum is noted to be milky in appearance. A diagnosis of pancreatitis is made. The serum amylase is normal because:
 A. The patient has chronic renal failure
 B. The patient has hyperlipidemia
 C. The patient has alcoholic cirrhosis
 D. The patient has alcoholic hepatitis
 E. The diagnosis of pancreatitis is incorrect

95. A 57-year-old woman is admitted to the hospital with abdominal pain. She reports that she drinks alcohol only at social occasions. The amylase is elevated to 120 mmol/l. Which following x-ray finding would support a diagnosis of acute pancreatitis?
- Hepatic lesion on CT scan
 - Gas in abdominal cavity
 - Dilated colon transversum
 - Large loop of colon in the RUQ
 - Irregular cutoff of the CBD on cholangiogram
96. Following a motor vehicle accident a truck driver complains of severe abdominal pain. Serum amylase level is markedly increased to 400 mmol/l. Grey Turner's sign is seen in the flanks. Pancreatic trauma is suspected. Which statement is true of pancreatic trauma?
- It is oftenly caused by blunt injuries
 - It is usually an isolated single-organ injury
 - It often requires a total pancreatectomy
 - It may easily diagnosed at operation
 - It is proved by the mildly elevated amylase level
97. The severity of pancreatitis can be estimated with:
- Ranson Criteria
 - Alvarado scale
 - US examination results
 - SOFA scale
 - CXR
98. Clinical staging (Atlanta consensus) of acute pancreatitis consists of the following forms of the disease: 1. Pseudotumorous pancreatitis. 2. Mild acute pancreatitis. 3. Sterile pancreonecrosis. 4. Infected pancreonecrosis. 5. Pseudocyst of the pancreas. Select the correct combination of answers:
- 2,3,4
 - 1,2,3,5
 - 3,4
 - 2,3,4,5
 - All correct
99. Enzyme toxemia in case of pancreonecrosis is caused by: 1. Trypsin. 2. Phospholipase A2. 3. Chymotrypsin. 4. Elastase. 5. Enterokinase. Select the correct combination of answers:
- 1,4
 - 2,3,5
 - 1,2,3,4
 - 1,3,4,5
 - All correct
100. A 45-year-old male addmitted to the surgical department with severe pain in epigastrium with irradiation to the back, which develops after alcohol consumption. Acute pancreatitis was diagnosed. The patient was performed CT scan: pancreatic enlargement. What is the stage of acute pancreatitis according to CT picture?
- Grade A
 - Grade B
 - Grade C
 - Grade D
 - Grade E
101. Acute pancreatitis is most rearily seen in:
- > 60 years old women
 - 21-45 years old men
 - 45-60 years old women
 - 45-60 years old men
 - Children
102. How peritoneum covers pancreatic gland?
- From all sides
 - From anterior and posterior sides
 - From anterior and inferior sides
 - Covers only anterior surface of the gland
 - Covers anterior and posterior sides only of the head of the gland
103. For clinical picture of acute pancreatitis are typical all signs except:
- Continuous severe pain located in the epigastrium and/or left upper quadrant
 - The pain irradiates to the back
 - Multiple vomiting
 - Paralytic ileus
 - Absence of liver dullness

104. In differential diagnosis of acute pancreatitis and acute bowel obstruction will be useful: 1. CBC; 2. Liver enzymes serum levels; 3. Serum amylase and lipase levels; 4. Plain abdominal film; 5. Serum electrolytes. Choose best combination.
- 1, 2
 - 2, 3
 - 3, 4
 - 1, 5
 - 2, 5
105. Choose changes in biochemical test typical for patients with acute pancreatitis: 1. Hypertriglyceridemia; 2. Hyperglycemia; 3. Hypercalcemia; 4. Hypotriglyceridemia; 5. Hypocalcemia.
- 1, 2, 5
 - 1, 3, 4
 - 2, 3, 4
 - 3, 4, 5
 - 1, 2, 4
106. Most common cause of death in early acute pancreatitis is?
- Renal failure
 - Cardiac failure
 - Respiratory failure
 - Uncontrolled coagulopathy
 - Sepsis
107. Severity of acute pancreatitis correlate with levels of all of the following except
- Glucose
 - Amylase
 - Transaminase
 - Calcium
 - WBC level
108. A 60-year-old female treated in surgical department for acute pancreatitis. On 30 day of treatment in epigastrium appeared mass 10 cm in diameter. CBC: RBC – $3,7 \cdot 10^{12}/l$, WBC – $10 \cdot 10^9/l$. US examination: fluid collected near the head of the pancreatic gland. What complication of acute pancreatitis developed in this case?
- Postnecrotic pseudocyst;
 - Retroperitoneal phlegmone;
 - Enzyme peritonitis;
 - Pancreatic abscess;
 - Cancer of the head of the pancreas.
109. A 45-year-old male treated in surgical department for acute pancreatitis during 28 days. He started to complain for the temperature elevation to $39^{\circ}C$, weakness, fatigue. CBC: RBC – $3,5 \cdot 10^{12}/l$, WBC – $21 \cdot 10^9/l$. CT: 11 cm in diameter fluid collected near the head of the pancreatic gland. What complication of acute pancreatitis developed in this case?
- Postnecrotic pseudocyst;
 - Retroperitoneal phlegmone;
 - Enzyme peritonitis;
 - Pancreatic abscess;
 - Cancer of the head of the pancreas.
110. The early complications of acute pancreatitis are all, except:
- Pancreatic shock;
 - Acute respiratory distress syndrome;
 - Enzyme peritonitis;
 - Renal failure;
 - Pancreatic fistula.
111. When infection complications of acute pancreatitis develops most oftenly?
- On 7-th day of disease;
 - After 2 weeks;
 - On 4-th day of disease;
 - After 6 months;
 - On 2-nd day of disease.
112. Treatment of acute pancreatitis includes all EXCEPT:
- Diuretics;
 - Antibiotics;
 - Intravenous hydration;
 - Analgesics;
 - Nothing per os.
113. A 24-year-old college student recovers from a bout of severe pancreatitis. He has mild epigastric discomfort, sensation of bloating, and loss of appetite. Examination reveals an epigastric fullness that on ultrasound is confirmed to be a pseudocyst. The swelling increases in size over a 3-week period of

- observation to 15 cm in diameter. What should be the next step in management?
- Percutaneous drainage of the cyst
 - Laparotomy and internal drainage of the cyst
 - Excision of pseudocyst
 - Total pancreatectomy
 - Administration of pancreatic enzymes
114. A 42-year-old woman with a history of chronic alcoholism is admitted to the hospital because of acute pancreatitis. The bilirubin and amylase levels are in the normal range. An ultrasound reveals cholelithiasis (stones in the gallbladder, CBD 6 mm in diameter). The symptoms decreased on the fifth day after admission. What should she be advised?
- To start on a low-fat diet at home
 - To increase the fat content of her diet
 - To undergo immediate cholecystectomy
 - To undergo cholecystectomy during the same hospital stay as well as an assessment of her bile ducts
 - That she will be discharged and should undergo elective cholecystectomy after 3 months
115. A 26-year-old woman with a known history of chronic alcoholism is admitted to the hospital with severe abdominal pain due to acute pancreatitis. The serum and urinary amylase levels are elevated. On the day following admission to the hospital, there is no improvement, and she has a mild cough and slight dyspnea. What is the most likely complication?
- Pulmonary atelectasis
 - Bronchitis
 - Pulmonary embolus
 - Afferent loop syndrome
 - Pneumonia
116. The most often cause of death in case of destructive pancreatitis is:
- Pulmonary embolism
 - Mechanical jaundice
 - Peritonitis
 - Septic complications
 - Renal failure
117. 30-year-old man hospitalized with a severe epigastric pain. During examination: hypoxemia, dehydration. Laboratory tests: increased levels of amylase and lipase in the blood. CT confirmed severe acute pancreatitis. Which antibiotic will reduce the risk of infection?
- Ampicillin
 - Erythromycin
 - Gentamicin
 - Ceftriaxon
 - Imipenem/cilastatin
118. 45-year-old man who abused alcohol, admitted to the hospital complaining of abdominal pain, nausea, vomiting. Body temperature 36,8°C. At palpation: defined tumor in the epigastrium. Laboratory tests: pancreatic amylase normal. On the second day in the hospital CT was held: 9 cm pseudocyst of pancreas was found. Which statement regarding this patient is correct?
- Pseudocyst can cause compression of stomach and biliary ducts
 - Spontaneous resorption never met
 - Pseudocyst can be seen only in case of acute pancreatitis
 - In this case pseudocyst doesn't need any treatment
 - Malignant degeneration occurs in 25% of cases, if untreated
119. Which drug is used to suppress the secretion of the pancreas?
- Aprotinin
 - Octreotide
 - Papaverine
 - Imipenem/cilastatin
 - Acetaminophen
-
120. Which drug is used to inhibit proteases?
- Aprotinin
 - Octreotide
 - Papaverine
 - Imipenem/cilastatin
 - Acetaminophen
-

121. Which statement concerning medical treatment of patient with acute pancreatitis on early phase (first 3-5 days) is WRONG?
- Patients are kept “nothing per os”
 - Aggressive fluid resuscitation is critically important
 - Antibiotics should be used in any case of acute pancreatitis
 - Imipenem/cilastatin is indicated to prevent infection in patients with pancreatic necrosis
 - Early initiation of enteral nutrition is important in treatment and infection prevention
122. Name the source of infection in patients with necrotizing pancreatitis?
- Pulmonary infection
 - Bacterial translocation from gut
 - Skin infection
 - Urinary infection
 - Nosocomial infection
123. A 44-year-old woman is admitted to the hospital because of acute pancreatitis. Biochemical test: bilirubin – 45 $\mu\text{mol/l}$. An ultrasound reveals stones in gallbladder and CBD 14 mm in diameter. MRCP: 8 mm stone in the distal part of CBD, which is dilated to 14 mm. What should she be the first step in the treatment of patient?
- Whipple procedure
 - Distal resection of the pancreas
 - Sphincterotomy and stone extraction
 - Only medical treatment
 - Urgent cholecystectomy
124. A 47-year-old man with a known history of chronic alcoholism is admitted to the hospital with severe abdominal pain due to acute pancreatitis. His general condition worsens in first 48 hours. CBC: RBC – $4.4 \times 10^{12}/\text{l}$, WBC – $11.2 \times 10^9/\text{l}$. On second series of CT scans rapid increase in retroperitoneal fluid accumulation was found. Which complication of necrotizing pancreatitis develops in this case?
- Enzyme peritonitis
 - Retroperitoneal bleeding
 - Pancreatic duct disruption
 - Retroperitoneal phlegmon
 - Pancreatic abscess
125. Choose the WRONG statement concerning pseudocyst definition:
- Peripancreatic fluid collection persisting for more than 4 weeks
 - Pseudocyst lack an epithelial layer
 - Most of them are filled with necrotic debris
 - Intervention (minimally invasive or conventional) should be performed in case of pseudocyst complications development
 - In all cases pseudocysts should be treated with conventional surgery
126. Which sign is not associated with peptic ulcer perforation:
- Sudden onset;
 - Positive Blumberg sign;
 - Free air below diaphragm on plain abdominal film;
 - Cloiberg caps;
 - Intolerable abdominal pain.
127. Which ethiological factors causes peptic ulcer disease most oftenly?
- Abdominal trauma, alimentary factor;
 - H. pylori, NSAID's;
 - H. pylori, hyperlipidemia;
 - Drugs, toxins;
 - NSAID's, gastrinoma.
128. A 30-year-old male is operated on for peptic ulcer perforation, in 2,5 hours after the beginning of the disease. Which operation will be most efficient (radical operation for peptic ulcer)?
- Simple closure and highly selective vagotomy;
 - Simple closure with a Graham patch using omentum;
 - Simple closure;
 - Antrumectomy;
 - Stomach resection.
129. A 42-year-old male, with previous ulcer history and typical clinical picture of peptic ulcer perforation, on examination, in 4 hours after the beginning of the disease, discomfort in right upper

- quadrant, heart rate – 74/min., mild abdominal wall muscles rigidity, negative Blumberg sign. Free air below diaphragm on X-ray abdominal film. What is your diagnosis?
- Peptic ulcer recurrence;
 - Acute cholecystitis;
 - Covered peptic ulcer perforation;
 - Chronic cholecystitis;
 - Acute appendicitis (subhepatic location).
130. Most often perforated peptic ulcers are located at:
- Posterior wall of antrum;
 - Cardiac part of stomach;
 - Fundus of stomach;
 - Posterior wall of duodenal bulb;
 - Anterior wall of duodenal bulb.
131. Penetrated ulcer can cause such complications: 1). Abdominal abscess; 2). Portal pyelophlebitis; 3). Stomach-organ fistula; 4). Acute pancreatitis; 5). Bleeding.
- 1, 2, 3;
 - 2, 3, 5;
 - 3, 4, 5;
 - 1, 3, 5;
 - All.
132. A 45-year-old man complains of burning epigastric pain that wakes him up at night. The pain is relieved by eating or using over-the-counter antacids and H₂ blockers. Diagnosis is best confirmed by which of the following?
- Urea breath test
 - Serum gastrin levels
 - Barium meal examination
 - Upper endoscopy
 - Upper endoscopy and biopsy
133. A 44-year-old dentist complains of burning epigastric pain that wakes him up at night caused by a recurrent duodenal ulcer. He has shown considerable improvement following operative treatment by a truncal vagotomy and pyloroplasty, 10 years prior to this incident. Which is TRUE of truncal vagotomy?
- It is performed exclusively via the thorax
 - It can be performed in the neck
 - If complete, it will result in increased acid secretion
 - It requires a gastric drainage procedure
 - It has been abandoned as a method to treat ulcer disease.
134. A 42-year-old executive has refractory chronic duodenal ulcer disease. His physician has suggested several surgical options. The patient has chosen a parietal (highly selective) vagotomy instead of a truncal vagotomy and antrectomy because?
- It results in a lower incidence of ulcer recurrence
 - The complication rate is lower
 - It reduces acid secretion to a greater extent
 - It benefits patients with antral ulcers the most
 - It includes removal of the ulcer
135. A 63-year-old woman is admitted to the hospital with severe abdominal pain of 3-hour duration. Abdominal examination reveals board-like rigidity, guarding, and rebound tenderness. Her blood pressure is 90/50 mm Hg, pulse 110 bpm (beats per minute), and respiratory rate is 30 breaths per minute. After a thorough history and physical, and initiation of fluid resuscitation, what diagnostic study should be performed?
- Supine abdominal x-rays
 - Upright chest x-ray
 - Gastrograffin swallow
 - Computerized axial tomography (CAT) scan of the abdomen
 - Abdominal sonogram
136. A frail elderly patient is found to have an anterior perforation of a duodenal ulcer. He has a recent history of nonsteroidal anti-inflammatory drug (NSAID) use and no previous history of peptic ulcer disease. A large amount of bilious fluid is found in the abdomen. What should be the next step?

- A. Lavage and omental patch closure of the ulcer
 B. Lavage of the peritoneal cavity alone
 C. Total gastrectomy
 D. Lavage, vagotomy, and gastroenterostomy
 E. Laser of the ulcer
137. Name 3 main signs of perforated peptic ulcer?
 A. Abdominal pain, multiple vomiting, distention of abdominal cavity
 B. Increasing abdominal pain, meteorism, peritonitis
 C. Ulcer in past medical history, sudden abdominal pain, board-like rigidity
 D. Ulcer in past medical history, pain in the epigastrium, which gradually increases, peritonitis
 E. Abdominal pain, pale and cold skin, low BP
138. A 63-year-old male patient admitted to hospital with complaints of general weakness, dizziness, temporary loss of consciousness. For last three years patient was complaining of pain in epigastric area, specially at night, heartburn. Medical examination was not performed. 2 weeks before hospitalization, patient complaint of intense pain in epigastrium. On the day of hospitalization encountered severe weakness, nausea, dizziness, twice black stool with a rotten odor and twice lost of consciousness. CBC: hemoglobin – 91 g/l, RBC – $2,3 \times 10^9/l$. Make the diagnosis?
 A. Bleeding from duodenal ulcer;
 B. Stomach cancer complicated with bleeding;
 C. Acute pancreatitis;
 D. Myocardial infarction;
 E. Esophageal varices.
139. 63-year-old patient admitted with massive vomiting with blood, which started suddenly. Previous history of viral hepatitis. On examination: caput medusae, enlarged liver and spleen. What is the cause of bleeding?
 A. Erosive gastroduodenitis;
 B. Peptic ulcer disease complicated with bleeding;
 C. Esophageal varices;
 D. Mallory-Weiss syndrome;
 E. Gastric cancer.
140. Choose the most efficient diagnostic method in case of peptic ulcer disease complicated with bleeding:
 A. Abdominal plain film;
 B. Ultrasound;
 C. CT scanning;
 D. Endoscopy;
 E. Laparoscopy.
141. In patient suffering from peptic ulcer disease the risk of bleeding is highest in case of:
 A. Ulcer perforation;
 B. Gastric outlet obstruction;
 C. Penetration;
 D. Ulcer malignization;
 E. In all cases.
142. During endoscopy on the proximal 1/3 of lesser curvature of stomach the large ulcer (3x3 cm) with profuse arterial bleeding was visualized. Name the bleeding vessel.
 A. Right gastric artery;
 B. Left gastric artery;
 C. Left gastroepiploic artery;
 D. Right gastroepiploic artery;
 E. Short gastric arteries.
143. 53-year-old patient, alcoholic, complaining for hematemesis that follows episodes of intense vomiting. During endoscopy: liner tears below the gastroesophageal junction. Make the diagnosis?
 A. Peptic ulcer complicated with bleeding;
 B. Mallory-Weiss syndrome;
 C. Esophageal varices;
 D. Dieulafoy's lesion;
 E. Gastritis.
144. Name most often cause of GIT bleeding?
 A. Peptic ulcer;
 B. Liver cirrhosis;
 C. Portal hypertension;
 D. Colon diseases;
 E. Esophagus diseases.

145. The main complication of GIT bleeding is?
- Renal insufficiency;
 - Liver failure;
 - CNS hypoxia;
 - Hypovolemic shock;
 - Centralization of circulation.
146. What is the most efficient and safe method of bleeding stress ulcers treatment?
- Stomach resection;
 - Sengstaken-Blackmore tube;
 - Combination of hemostatic and anti-acid treatment;
 - Endoscopic coagulation;
 - Gastrotomy and suturing of the vessels.
147. Peptic ulcer complicated with bleeding is associated with such clinical signs: 1). Increase of the pain; 2). Coffee ground vomitus; 3). Decrease of the pain; 4). Bradycardia; 5). Melena
- 1, 2, 3;
 - 2, 3, 5;
 - 3, 4, 5;
 - 1, 3, 4;
 - All.
148. A 68-year-old woman has been diagnosed with a benign ulcer on the greater curvature of her stomach, 5 cm proximal to the antrum. After 3 months of standard medical therapy, she continues to have guaiac positive stool, anemia, and abdominal pain with failure of the ulcer to heal. Biopsies of the gastric ulcer have not identified a malignancy. The next step in management is which of the following?
- Treatment of the anemia and repeat all studies in 6 weeks
 - Endoscopy and bipolar electrocautery or laser photocoagulation of the gastric ulcer
 - Admission of the patient for total parenteral nutrition (TPN), treatment of anemia, and endoscopic therapy
 - Surgical intervention, including partial gastric resection
 - Surgical intervention, including total gastrectomy
149. A healthy 75-year-old man bleeds from a duodenal ulcer. Medical management and endoscopic measures fail to stop the bleeding. What is the next step in management?
- Continued transfusion of 8 U of blood
 - Oversewing of the bleeding point, vagotomy, and pyloroplasty
 - Oversewing of the bleeding point
 - Administration of norepinephrine
 - Hepatic artery ligation
150. A 73-year-old woman is admitted to the hospital with a mild UGI hemorrhage that stopped spontaneously. She did not require transfusion. She had ingested large amounts of aspirin in the past 4 months to relieve the pain caused by severe rheumatoid arthritis. Endoscopy confirms the presence of a duodenal ulcer. A biopsy is done. What is the next step in the management of a duodenal ulcer associated with a positive biopsy for *H. pylori*?
- H2 blockers
 - Bipolar electrocautery of the ulcer
 - Triple therapy
 - Photocoagulation
 - Elective surgery
151. An 80-year-old grandfather gets admitted to the hospital for a UGI bleed. He undergoes upper endoscopy and bleeding ulcer is visualized. Attempts at endoscopic cauterization and epinephrine injection are unsuccessful at stopping the bleeding. A previous attempt at angioembolization was also unsuccessful. What is the next definitive step in therapy?
- Elective surgery
 - PPI IV
 - Blood transfusion
 - Repeated attempts at bipolar electrocautery
 - Emergency surgery
152. A 54-year-old man presents with a massive UGI bleed. After resuscitation,

- endoscopy is performed. No esophageal varices, gastritis, or gastric ulcers are seen. After irrigation, a pinpoint lesion is seen near the gastro-esophageal junction. Make the diagnosis?
- Mallory-Weiss syndrome
 - Dieulafoy's lesion
 - Carcinoma
 - Gastro-intestinal stromal tumor
 - Telangiectasia
153. A 54-year-old man presents with a massive UGI bleed. After resuscitation, endoscopy is performed. No esophageal varices, gastritis, or gastric ulcers are seen. After irrigation, a pinpoint lesion is seen near the gastro-esophageal junction. What can be said about this disease?
- It is a carcinoid
 - It is related to alcohol use
 - It is exclusively a mucosal lesion
 - Surgery is first-line therapy
 - Bleeding is from a submucosal vessel
154. The most efficient noninvasive diagnostic method for small bowel obstruction is:
- Plain abdominal film;
 - Laparoscopy;
 - Irrigography;
 - Colonoscopy;
 - Ultrasound examination.
155. Medical therapy will be effective in cases of bowel obstruction caused by:
1. Volvulus;
 2. Cancer of colon;
 3. Paralytic ileus;
 4. Spastic bowel obstruction;
 5. Coprostasis.
- 1, 2, 3;
 - 2, 3, 4;
 - 3, 4, 5;
 - 1, 2, 5;
 - 1, 2, 4.
156. The signs of strangulation are: 1. Acute onset of disease; 2. Severe abdominal pain; 3. Slow beginning; 4. Dull pain; 5. Dilated small intestine loops with air/fluid levels on plain abdominal film.
- 4, 5;
 - 1, 3, 4;
 - 3, 4, 5;
 - 1, 2, 5;
 - 2, 3, 5.
157. The signs of obturation are: 1. Acute onset of disease; 2. Severe abdominal pain; 3. Slow beginning; 4. Dull pain; 5. Dilated air-filled colon on plain abdominal film.
- 1, 2, 3;
 - 3, 4, 5;
 - 1, 4, 5;
 - 2, 3, 5;
 - 1, 2.
158. Patient with bowel obstruction is complaining for blood in the stool. What is your diagnosis?
- Intussusception;
 - Paralytic ileus;
 - Volvulus;
 - Hernia incarceration;
 - Spastic bowel obstruction.
159. For low large bowel obstruction are characteristic all signs except:
- Slow beginning;
 - Abdominal distension;
 - Cloiberg caps on plain abdominal film;
 - Absence of stool;
 - Acute dehydration.
160. Surgical treatment in case of acute bowel obstruction is indicated in cases: 1. Electrolyte disbalance. 2. Abdominal cramps. 3. Strangulation. 4. Obstruction has not resolved within 24-48 hours of conservative treatment 5. Multiple air-fluid level on plain abdominal film.
- 1, 2;
 - 3, 4;
 - 3, 5;
 - 4, 5;
 - 2, 3.
161. A 42-year-old woman is admitted to the emergency department with severe colicky pain, vomiting, and abdominal distention. She has not passed stools or flatus for 48 hours. X-rays of the abdomen confirm the presence of small bowel obstruction. What

- is the most likely cause of small-bowel obstruction in the patients?
- Adhesions, inflammatory diseases;
 - Helminths, tumors;
 - Groin hernia incarceration, adhesions;
 - Gallstones, tumors;
 - Tumors, groin hernia.
162. Most often small bowel obstruction is caused by:
- Adhesions, inflammatory diseases;
 - Helminths, tumors;
 - Groin hernia incarceration, adhesions
 - Gallstones, tumors;
 - Tumors, groin hernia.
163. An elderly nursing home patient is brought to the hospital with recent onset of colicky abdominal pain, distension and obstipation on examination, the abdomen is markedly distended and tympanic. There is no marked tenderness. Plain abdominal x-ray shows a markedly distended loop located mainly in the right upper quadrant. The likely diagnosis is:
- Small-bowel obstruction;
 - Chron's disease;
 - Gallstone ileus;
 - Mesenteric vascular occlusion;
 - Sigmoid volvulus.
164. 56-year-old patient admitted to the surgical department with complaints of abdominal pain, repeated vomiting, which does not bring relief. The pain starts 2 hours before admission, after consumption of large amount of food. Patient anxious, pale skin, acrocyanosis, pulse 120 bpm, BP 90/60 mmHg. Abdomen moderately distended in the epigastric region, in the lower parts – sink in. On palpation: tenderness in the epigastrium. On percussion: tympanic sound in the epigastric region, increased peristalsis. On plain abdominal film dilated small intestinal loops. Make diagnosis?
- Peptic ulcer perforation
 - Groin hernia incarceration
 - Acute pancreatitis
 - Small intestine volvulus
 - Bowel obstruction caused by the tumor of large intestine
165. Which sign is characterized by rebound tenderness over the site of abnormality in patients with peritonitis?
- Kocher's sign;
 - Blumberg's sign;
 - Murphy's sign;
 - Pasternatski's sign;
 - Cullen's sign.
166. What is the leading etiological factor causing spontaneous bacterial peritonitis?
- Candida albicans;
 - Streptococcus pyogenes;
 - Staphylococcus aureus;
 - Escherichia Coli;
 - Pseudomonas aeruginosa.
167. Name the scoring system which helps surgeon to make the prognosis in case of peritonitis?
- Manheim index;
 - APACHE II;
 - ONTARIO Score;
 - EuroSCORE;
 - SOFA.
168. A 68-year-old woman is admitted with an acute surgical abdomen. After resuscitation with IV crystalloids fluids and administration of antibiotics, she is taken for an immediate laparotomy. Perforated diverticulitis of the sigmoid colon is found. The sigmoid colon is inflamed but mobile and the mesentery contains a perforated abscess. The best operation for this patient would be:
- Insertion of a drain in the abscess;
 - Sigmoid resection including the abscess and primary colon-to-colon anastomosis;
 - Sigmoid loop colostomy;
 - Left hemicolectomy;
 - Sigmoid resection and end sigmoid colostomy and oversew the rectum (Hartmann procedure).
169. Which statement is wrong concerning primary microbial peritonitis?
- Occurs without perforation of a hollow viscus;

- B. Occurs with perforation of a hollow viscus;
 C. Caused by direct seeding of microorganisms;
 D. Seeding of microorganisms via bacterial translocation from the gut;
 E. Seeding of microorganisms via hematogenous dissemination.
170. Which statement is wrong concerning secondary microbial peritonitis?
 A. Occurs subsequent to perforation of a hollow viscus;
 B. Endogenous microbes spill out into the peritoneal cavity;
 C. Even after timely surgical intervention and preemptive antibiotic therapy, about 15-30% of patients demonstrate ongoing infection consisting of recurrent secondary microbial peritonitis, intraabdominal abscess, or tertiary microbial peritonitis.
 D. Perforation of the colon is associated with lower infection rates;
 E. Patients who develop secondary microbial peritonitis should undergo surgery to alleviate the source of ongoing peritoneal soilage.
171. Which examination would be most efficient in finding the cause for secondary bacterial peritonitis?
 A. Laparoscopy;
 B. Plain abdominal film;
 C. Ultrasound;
 D. CT scan;
 E. Level of CRP.
172. One of the listed below diseases didn't cause secondary peritonitis
 A. Acute cholecystitis;
 B. Destructive appendicitis;
 C. Acute cholangitis;
 D. Bowel obstruction;
 E. Mesenteric infarction
173. Choose the clinical sign, not typical for acute peritonitis:
 A. Tachycardia;
 B. Positive Blumberg sign;
 C. Muscles rigidity;
 D. Paralytic ileus;
 E. Positive Ortner sign
174. Select the method of instrumental examination, which is not suitable for localization of intra-abdominal abscesses:
 A. US;
 B. Colonoscopy;
 C. CT;
 D. MRI;
 E. Laparoscopy
175. Specify the main microorganisms, which are identified in the abdominal cavity of patients with purulent peritonitis:
 A. Monomicrobial;
 B. Gram-positive microorganisms domination;
 C. Gram-negative microorganisms domination;
 D. Staphylococcus;
 E. Streptococcus
176. Choose a reason for the use of metronidazole as a component of antibacterial therapy of patients with diffuse peritonitis?
 A. Elimination of anaerobic bacteria;
 B. Elimination of gram-positive flora;
 C. Elimination of gram-negative flora;
 D. Elimination of fungal infections;
 E. Antiprotozoal antibiotic
177. For the clinical course of acute peritonitis three stages are typical. Choose the correct combination: 1. Subclinical; 2. Reactive; 3. Toxic; 4. Septic; 5. Terminal:
 A. 1, 2, 3;
 B. 2, 3, 4;
 C. 1, 2, 5;
 D. 3, 4, 5;
 E. 2, 3, 5
178. For clinical picture of subdiaphragmatic abscess is typical everything except:
 A. Reduction of pulmonary respiratory excursions;
 B. Elevation of diaphragm dome;
 C. Reactive pleural effusion;
 D. Leukocytosis;
 E. Hematemesis

179. Name the walls of inguinal canal: 1.

Inguinal ligament; 2. External oblique abdominal m. aponeurosis; 3.

Transversalis fascia; 4. Round ligament of the uterus; 5. M. rectus abdominis; 6.

Spermatic cord; 7. M. transversus abdominis, internal oblique abdominal m..

A. 1, 2, 4, 5;

B. 1, 2, 3, 7;

C. 2, 3, 4, 5;

D. 3, 4, 5, 6;

E. 4, 5, 6, 7.

180. A 60-year-old male presents with an inguinal hernia of recent onset. Which of the following statements are TRUE?

A. The hernia is more likely to be direct than indirect;

B. Presents through the posterior wall of the inguinal canal, lateral to the deep inguinal ring;

C. Is located lateral to epigastric vessels;

D. Is more likely than a femoral hernia to strangulate;

E. The sac is congenital.

181. A 70-year-old cigarette smoker presents with a right inguinal mass that has enlarged and has caused discomfort in recent months. The swelling, which does not extend to the scrotum, reduces when resting. What is the likely diagnosis?

A. Strangulated indirect inguinal hernia;

B. Direct inguinal hernia

C. Hydrocele

D. Aneurysm of the femoral artery;

E. Cyst of the cord.

182. Name the best tension-free method for inguinal hernia repair.

A. Bassini repair;

B. Shouldice repair;

C. Stoppa repair;

D. Lichtenstein repair;

E. McVay (Cooper's ligament) repair.

183. A 62-year-old male presents with an irreducible swelling and severe pain in the left groin. He had a known reducible hernia for 15 years prior to this. He had a bowel movement

while in the emergency room. At surgery, a Richter's hernia was found. Which of the following statements is TRUE?

A. It presents lateral to the rectus sheath;

B. It presents through the lumbar triangle;

C. It presents through the obturator foramen;

D. It contains a Meckel's diverticulum;

E. It may allow normal passage of stool.

184. At surgery for a right inguinal hernia, a 72-year-old man is found to have a hernia sac that is not independent of the bowel wall. The cecum forms part of the wall of the sac. Such a hernia is properly referred to as which of the following?

A. Incarcerated;

B. Irreducible;

C. Sliding;

D. Richter's;

E. Interstitial.

185. Which nerves can be injured during surgery for repair of inguinal hernia: 1). Ilioinguinal n., 2). Pudendal n., 3). Iliohypogastric n., 4). Femoral n., 5). Popliteal n., 6). Genitofemoral n..

A. 1, 3, 6

B. 2, 3, 5

C. 1, 2, 3

D. 3, 5, 6

E. 1, 5, 6

186. Which of the following structures would be encountered during repair of an inguinal hernia in a male?

A. Spermatic cord;

B. Round ligament;

C. Obturator nerve;

D. Symphysis pubis

E. Nerve to the adductor muscles of the thigh.

187. In repair of a femoral hernia, the structure most vulnerable to major injury lies:

A. Medially;

B. Laterally;

C. Anteriorly;

D. Posteriorly;

E. Superficially.

188. A 28-year-old professional football player has sudden pain and swelling in the right groin when attempting to intercept a pass. He is admitted to the local emergency department. On examination, there is a tender swelling in the right groin. The scrotum and penis show no abnormality. What is the next step in management?
- Needle aspiration to exclude hematoma;
 - Forceful manual reduction;
 - Laparotomy within 20 minutes;
 - Preoperative preparation and exploration of the groin with hernia repair;
 - Morphine and reevaluation within 12 hours
189. A 45-year-old man complains of burning epigastric pain that wakes him up at night. The pain is relieved by eating or using over-the-counter antacids and H₂ blockers. Diagnosis is best confirmed by which of the following?
- Urea breath test
 - Serum gastrin levels
 - Barium meal examination
 - Ultrasound
 - Upper endoscopy and biopsy
190. A 44-year-old patient has refractory chronic duodenal ulcer disease. His physician has suggested several surgical options. The patient has chosen a parietal (highly selective) vagotomy instead of a truncal vagotomy and antrectomy because?
- It results in a lower incidence of ulcer recurrence.
 - It benefits patients with antral ulcers the most.
 - It includes stomach resection.
 - It left the nerve supply to pylorus intact (nerves of Latarjet).
 - It includes removal of the ulcer.
191. A frail elderly patient is found to have an anterior perforation of a duodenal ulcer. He has a recent history of nonsteroidal anti-inflammatory drug (NSAID) use and no previous history of peptic ulcer disease. A large amount of bilious fluid is found in the abdomen. What should be the next step?
- Lavage of the peritoneal cavity alone
 - Lavage and omental patch closure of the ulcer
 - Total gastrectomy
 - Lavage, vagotomy, and gastroenterostomy
 - Laser of the ulcer
192. A 37-year-old man has had recurrent symptoms suggestive of peptic ulcer disease for 4 years. Endoscopy reveals an ulcer located on duodenum bulb. A mucosal biopsy reveals *Helicobacter pylori*. What is TRUE about *H. pylori*?
- Active organisms can be discerned by serology.
 - It is protective against gastric carcinoma.
 - It is associated with chronic gastritis.
 - It causes gastric ulcer but not duodenal ulcer.
 - It cannot be detected by the urea breath test.
193. A 68-year-old woman has been diagnosed with a benign ulcer on the greater curvature of her stomach, 5 cm proximal to the antrum. After 3 months of standard medical therapy, she continues to have guaiac positive stool, anemia, and abdominal pain with failure of the ulcer to heal. Biopsies of the gastric ulcer have not identified a malignancy. The next step in management is which of the following?
- Treatment of the anemia and repeat all studies in 6 weeks
 - Endoscopy and bipolar electrocautery or laser photocoagulation of the gastric ulcer
 - Admission of the patient for total parenteral nutrition (TPN), treatment of anemia, and endoscopic therapy
 - Surgical intervention, including partial gastric resection
 - Surgical intervention, including total gastrectomy
194. Over the past 6 months, a 60-year-old woman with long standing duodenal ulcer disease has been complaining of anorexia,

nausea, weight loss and repeated vomiting. She recognizes undigested food in the vomitus. Examination and workup reveal dehydration, hypokalemia, and hypochloremic alkalosis. What is the most likely diagnosis?

- A. Carcinoma of the fundus
- B. Penetrating ulcer
- C. Pyloric obstruction due to cicatricial stenosis of the lumen of the duodenum
- D. ZES (Zollinger Ellison Syndrome)
- E. Anorexia nervosa

195. A 2-cm ulcer on the greater curvature of the stomach is diagnosed in a 70-year-old woman by a barium study. Gastric analysis to maximal acid stimulation shows achlorhydria. What is the next step in management?

- A. Antacids, H₂ blockers, and repeat barium study in 6 to 8 weeks
- B. Proton pump inhibitor (e.g., omeprazole)
- C. Prostaglandin E (misoprostol) and repeat barium study in 6 to 8 weeks
- D. Immediate elective surgery
- E. Upper endoscopy with multiple biopsies (at least 8 or 9) for the ulcer

196. A 9-year-old girl had multiple episodes of upper GI bleeding. Contrast enhanced CT scan showed multiple cavernous malformation surrounding the portal vein. She is admitted with severe hematemesis and melena. At birth, she had developed an infection around the umbilicus. What is the most likely site of bleeding?

- A. Mallory-Weiss tear of the lower end of the esophagus
- B. Duodenal varices
- C. Peptic ulcer
- D. Esophageal varices
- E. Meckel's diverticulum

197. A 43-year-old man with chronic hepatitis and liver cirrhosis is admitted with upper GI bleeding. He has marked ascites and shows multiple telangiectasias, liver palmar erythema, and clubbing. A diagnosis of bleeding esophageal varices secondary to portal hypertension is made. Portal pressure is considered elevated when it is above which of the following?

- A. 0.15 mm Hg

- B. 1.5 mm Hg
- C. 10 mm Hg
- D. 40 mm Hg
- E. 105 mm Hg

198. For how many segments the liver is divided?

- A. 11
- B. 9
- C. 8
- D. 7
- E. 5

199. Name the main vessels which forms portal vein

- A. Azygos veins
- B. Hepatic veins
- C. Superior mesenteric vein, inferior mesenteric vein
- D. Splenic vein + inferior mesenteric vein, superior mesenteric vein
- E. Splenic vein, superior mesenteric vein, inferior mesenteric artery

200. Budd-Chiari syndrome develops due to:

- A. Thrombosis of hemorrhoidal veins
- B. Thrombosis of hepatic veins
- C. Thrombosis of superior mesenteric vein
- D. Thrombosis of inferior mesenteric vein
- E. Thrombosis of splenic vein

201. The portal vein drains blood from the following organs, except:

- A. liver
- B. spleen
- C. pancreas
- D. small intestines
- E. stomach

202. What is the most common complication of portal hypertension:

- A. chronic pancreatitis
- B. obstructive jaundice
- C. hematochezia
- D. liver cirrhosis
- E. variceal hemorrhage

203. Determining the cause of portal hypertension involves all except (choose one wrong answer):

- A. chronic fever
- B. history of alcohol abuse
- C. umbilical infection
- D. history of blood transfusions, intravenous drug use (hepatitis B and C)
- E. history of jaundice

204. Signs of portosystemic collateral formation include the following: 1.

Dilated veins in the anterior abdominal wall (umbilical epigastric vein shunts) 2. Venous pattern on the flanks (portal-parietal peritoneal shunting) 3. Paraumbilical hernia 4. Rectal hemorrhoids 5. Ascites - Shifting dullness and fluid wave 6. Caput medusa (tortuous collaterals around the umbilicus). Choose the correct combination of answers:

- A. 2, 3, 5, 6.
- B. 1, 2, 3, 5, 6.
- C. 1, 2, 4, 6.
- D. 2, 4, 5, 6.
- E. 1, 2, 4, 5, 6.

205. US features suggestive of hepatic cirrhosis with portal hypertension include the following: 1. nodular liver surface or nodular regenerative hyperplasia. 2. enlarged IVC. 3. splenomegaly. 4. "portal" gastropathy. 5. ascitis. 6. portal vein cavernous formation.

Exclude false answers:

- A. 3, 4, 6.
- B. 2, 4.
- C. 2, 4, 6.
- D. 1, 2, 4.
- E. 1, 3, 5.

206. Name scoring system used to evaluate severity of liver cirrhosis:

- A. APACHE II
- B. Glasgow score
- C. Child-Pugh scoring system
- D. Ranson Criteria
- E. Alvorado score

207. To evaluate liver function abnormalities all listed below laboratory test should be performed, except:

- A. Viral hepatitis serologies
- B. Platelet count
- C. Prothrombin time
- D. Albumin
- E. Liver function tests

208. All patients with cirrhosis should be considered for the presence of varices at the time of the initial diagnosis of cirrhosis. Gastroesophageal varices confirm the diagnosis of portal hypertension. What examination is the most reliable in revealing the varices:

- A. antegrade cholangiogram
- B. liver-spleen scan (with technetium sulfur colloid)
- C. US investigation with Duplex-Doppler
- D. upper GI endoscopy
- E. hepatic venous pressure gradient (HVPG) measurement

209. Patient with 10-year history of hepatitis C is admitted to emergency department with massive GI bleeding. Within admission there were signs of rebleeding, but patient complains on severe weakness and dizziness. What complications can develop in this case : 1. hepatic encephalopathy, 2. bronchial aspiration, 3. renal failure, 4. portal vein thrombosis, 5. acute liver necrosis.

- A. 1, 3, 4.
- B. 1, 3, 5.
- C. 1, 2, 3.
- D. 2, 3, 5.
- E. 2, 4, 5.

210. 62-year old man with long history of liver cirrhosis developed massive variceal bleeding. Physician performed upper endoscopy and variceal bleeding was confirmed. First attempt of endoscopic variceal ligation failed. Balloon-tube tamponade was considered to stop the bleeding. For how long Balloon-tube tamponade is allowed?

- A. 6-9 h
- B. up to 24 h
- C. only within resuscitation
- D. 1-2 h
- E. 2-3 days

211. Choose wrong statement concerning blood supply of liver:

- A. The liver receives a dual blood supply from both the portal vein and the hepatic artery
- B. 75% of flow from the portal vein and 25% from the hepatic artery
- C. Venous drainage is via the hepatic veins, which drain directly into the inferior vena cava
- D. Portal flow is increased by food intake
- E. The liver receives blood supply only from the proper hepatic artery

212. Under the normal conditions per 24 hours the liver produces bile in the volume:

- A. 50-100 ml
- B. 150-200 ml
- C. 1500-2000 ml
- D. 600-1000 ml
- E. 2000-2500 ml

213. Choose the reasons which cause presinusoidal (prehepatic) portal hypertension: 1. Budd–Chiari syndrome; 2. Viral hepatitis C; 3. Thrombosis of portal vein or one of it's major branches; 4. Thrombosis of inferior vena cava 5. Alcohol liver cirrhosis; 6. Umbilical infection in infants.

- A. 1, 3
- B. 3, 6
- C. 1, 4
- D. 3, 5
- E. 4, 6

214. Choose the reasons which cause sinusoidal (hepatic) portal hypertension: 1. Budd–Chiari syndrome; 2. Viral hepatitis C; 3. Thrombosis of portal vein or one of it's major branches; 4. Thrombosis of inferior vena cava 5. Alcohol liver cirrhosis; 6. Umbilical infection in infants.

- A. 1, 3
- B. 3, 6
- C. 1, 4
- D. 3, 5
- E. 2, 5

215. Choose the reasons which cause postsinusoidal (posthepatic) portal hypertension: 1. Budd–Chiari syndrome; 2.

Viral hepatitis C; 3. Thrombosis of portal vein or one of it's major branches; 4. Thrombosis of inferior vena cava 5. Alcohol liver cirrhosis; 6. Umbilical infection in infants.

- A. 1, 5
- B. 3, 6
- C. 1, 4
- D. 3, 5
- E. 4, 6

216. The high mortality associated with first variceal bleeding episodes has led to the investigation of a variety of methods of prevention of initial bleeding. Which drugs are used to PREVENT initial bleeding by lowering the portal pressure?

- A. α -blockers (phenoxybenzamine, phentolamine)
- B. β -blockers (propranolol, nadolol)
- C. antibiotics (cefazolin, ceftriaxone)
- D. Lactulose
- E. Diuretics (furosemide)

217. A 49-year-old man with a history of cirrhosis is admitted with significant hematemesis. There is jaundice and clubbing of the fingers. His extremities are cold and clammy, and the systolic blood pressure drops to 84 mm Hg. After BP stabilization, which drugs should be used to STOP bleeding?

- A. phenoxybenzamine or phentolamine
- B. propranolol or nadolol
- C. furosemide
- D. vasopressin or octreotide
- E. prednisolon or hydrocortisone

218. A 49-year-old man with a history of cirrhosis is admitted with significant hematemesis. There is jaundice and clubbing of the fingers. His extremities are cold and clammy, and the systolic blood pressure drops to 84 mm Hg. After BP stabilization, which intervention should be performed primarily to STOP bleeding?

- A. Urgent endoscopy and endoscopic bleeding management (band ligation or sclerotherapy)
 B. Open surgery to stop the bleeding
 C. Sengstaken-Blakemore tube
 D. Emergency lienorenal shunt
 E. Vagotomy
219. A 42-year-old woman with a known history of esophageal varices secondary to hepatitis and cirrhosis is admitted with severe hematemesis from esophageal varices. Bleeding persists after vasopressin therapy, after endoscopic bleeding management (band ligation and sclerotherapy). What should be the next step in management?
 A. Emergency portocaval shunt
 B. Emergency lienorenal shunt
 C. Splenectomy
 D. Vagotomy
 E. Transjugular intrahepatic portasystemic shunt (TIPS)
220. A 25-year-old man from rural district on US was diagnosed a cyst 60 mm in diameter, serological test for antigens specific for *Echinococcus granulosus* was positive. Which statement is wrong concerning treatment of this patient?
 A. Systemic antihelminthic agents are generally very effective against human *Echinococcus*
 B. Surgery remains the standard approach for hydatid disease of the liver
 C. Surgery is indicated in all patients with symptomatic disease
 D. Surgical treatment should be considered in patients with asymptomatic disease discovered accidentally, when the cyst is large (>5 cm)
 E. To be curative, surgical therapy must remove all the living parasite and leave no viable daughter cysts or protoscolices
221. Which statement is wrong concerning liver cirrhosis?
- A. Cirrhosis is a histologic diagnosis, based on three essential criteria: diffuse disease, presence of fibrosis, and replacement of normal architecture by abnormal nodules
 B. Cirrhosis is a reversible process
 C. Morphologically liver cirrhosis can be divided into two groups: macronodular (>3 mm) and micronodular (<3 mm)
 D. Clinically cirrhosis is classified to two stages: compensated and decompensated
 E. Laboratory tests are performed to establish the etiology of liver cirrhosis
222. To determine the etiology of liver cirrhosis laboratory test should be performed. Which tests will be positive or increased in case of cholestatic liver cirrhosis? Choose correct combination: 1. Alcohol screening; 2. Gamma glutamyl transpeptidase; 3. ALT is greater than AST; 4. AST is greater than ALT; 5. Viral serology (HBV, HCV); 6. Alkaline phosphatase.
 A. 1, 2
 B. 2, 3
 C. 2, 4
 D. 2, 5
 E. 2, 6
223. To determine the etiology of liver cirrhosis laboratory test should be performed. Which tests will be positive or increased in case of alcohol liver cirrhosis? Choose correct combination: 1. Alcohol screening; 2. Gamma glutamyl transpeptidase; 3. ALT is greater than AST; 4. AST is greater than ALT; 5. Viral serology (HBV, HCV); 6. Alkaline phosphatase.
 A. 1, 2
 B. 1, 3
 C. 1, 4
 D. 1, 5
 E. 1, 6
224. To determine the etiology of liver cirrhosis laboratory test should be performed. Which tests will be positive or increased in

case of viral liver cirrhosis? Choose correct combination: 1. Alcohol screening; 2. Gamma glutamyl transpeptidase; 3. ALT is greater than AST; 4. AST is greater than ALT; 5. Viral serology (HBV, HCV); 6. Alkaline phosphatase.

- A. 1, 5
- B. 2, 5
- C. 3, 5
- D. 4, 5
- E. 5, 6

225. *In 50-year-old patient., suffering from Budd-Chiari's syndrome, appeared progressive pain in right subcostal area, jaundice, varicose veins of the esophagus, rectum, abdominal wall, ascites, splenomegaly. Liver cirrhosis was diagnosed. What was the mechanism of liver cirrhosis development?

- A. Cholestatic hepatitis
- B. Portal hypertension
- C. Autoimmune hepatitis
- D. Toxic hepatitis
- E. Viral hepatitis

226. *In patient M. for a long time suffering from liver cirrhosis, recently appeared complaints for moderate pain in the epigastric area, constant bloating, which aggravated after eating. Objective: caput medusae on abdominal wall, signs of free fluid in the abdominal cavity, enlarged liver and spleen. US: expansion of portal vein, increased liver and spleen. Which complication of liver cirrhosis we can think about?

- A. Portal vein thrombosis
- B. Hepatocellular failure
- C. Portal hypertension
- D. Peritonitis
- E. Intestinal dysbacteriosis

227. Choose the symptom of portal hypertension:

- A. Tongue papilla atrophy
- B. Jaundice
- C. Ascites
- D. Erythema of palms
- E. Increased levels of liver enzymes in serum

228. Select the causes of ascites in patients with liver cirrhosis: 1. Portal hypertension 2. AST and ALT high levels 3. Secondary hyperaldosteronism 4. Hypoalbuminemia 5. High level of bilirubin in the blood serum.

- A. 1, 3, 4
- B. 1, 2, 3
- C. 2, 3, 5
- D. 1, 3
- E. All are correct

229. Which method is the most efficient in diagnosing liver cirrhosis?

- A. CT
- B. US
- C. Radioisotope scanning
- D. Needle biopsy with histological examination
- E. Biochemical blood test

230. A patient delivered to the emergency department with obstructive jaundice. Choose clinical signs which are typical for obstructive jaundice caused by choledocholiasis: 1. Upper right quadrant pain; 2. Itch; 3. Back pain; 4. Vomiting; 5. Discolouration of stool:

- A. 1, 2, 5
- B. 2, 3, 5
- C. 1, 4, 5
- D. 3, 4, 5
- E. 1, 2, 3

231. 67-year-old man was made diagnosis cancer of pancreas, tumor is located in the head of the gland and causes obstructive jaundice. Which clinical signs are typical for obstructive jaundice caused by cancer of the pancreas: 1. Upper right quadrant pain; 2. Nausea; 3. Palpable enlarged gallbladder; 4. Weight loss; 5. Discolouration of stool:

- A. 1, 3, 4
- B. 2, 3, 4
- C. 1, 2, 3
- D. 3, 4, 5
- E. 2, 3, 5

232. A 58-year-old man with a 20-year history of alcoholism and pancreatitis is admitted to the hospital with an elevated bilirubin level to 65 $\mu\text{mol/L}$, acholic stools, and an amylase level of 120 U*H/L.

Obstructive jaundice in case of chronic pancreatitis usually results from which of the following?

- A. Sclerosing cholangitis
- B. Common bile duct compression caused by inflammation
- C. Alcoholic hepatitis
- D. Biliary dyskinesia
- E. Splenic vein thrombosis

233. A 62-year-old man is admitted with abdominal pain and weight loss of 5 kg over the past month. He has continued to consume large amounts of rum. Examination reveals icteric sclera. The indirect bilirubin level is 50 $\mu\text{mol/L}$ with a total bilirubin of 65 $\mu\text{mol/L}$. An ultrasound shows a 4-cm fluid collection near the head of the pancreas. What is the most likely cause of jaundice in a patient with alcoholic pancreatitis?

- A. Alcoholic hepatitis
- B. Carcinoma of pancreas
- C. Intrahepatic cyst
- D. Pancreatic pseudocyst
- E. Hemolytic anemia

234. A 66-year-old man with obstructive jaundice is found on ERCP to have periampullary carcinoma. He is otherwise in excellent physical shape and there is no evidence of metastasis. What is the most appropriate treatment?

- A. External radiotherapy
- B. Local excision and radiotherapy
- C. Radical excision (Whipple procedure) when possible
- D. Internal radiation seeds via catheter
- E. Stent and chemotherapy

235. Which instrumental examination is considered to be the most efficient and safe in finding the cause of obstructive jaundice?

- A. CT
- B. US
- C. Plain abdominal film
- D. MRCP
- E. ERCP

236. A 67-year-old woman is evaluated for obstructive jaundice. Which biochemical test, except bilirubin level, helps in diagnosing obstructive jaundice?

- A. Alkaline phosphatase
- B. AST
- C. CRP
- D. Protein
- E. Amilase

237. A 40-year-old man underwent laparoscopic cholecystectomy 2 years earlier. He remains asymptomatic until 1 week before admission, when he complains of RUQ pain and jaundice. He develops a fever and has several rigor attacks on the day of admission. An ultrasound confirms the presence of gallstones in the distal CBD. The patient is given antibiotics. Which of the following should be undertaken as the next step in therapy?

- A. Should be discharged home under observation
- B. Should be observed in the hospital
- C. Undergo surgical exploration of the CBD
- D. ERCP with sphincterotomy and stone removal
- E. Anticoagulants

238. A 49-year-old African American woman born in New York is admitted with RUQ pain, fever, and jaundice (Charcot's triad.) A diagnosis of ascending cholangitis is made. With regard to the etiology of ascending cholangitis, which of the following is TRUE?

- A. It usually occurs in the absence of jaundice
- B. It usually occurs secondary to CBD stones
- C. It occurs frequently after choledochoduodenostomy
- D. It does not occur in patients with cholangiocarcinoma
- E. It is mainly caused by the liver insufficiency

239. A surgeon is removing the gallbladder of a 35-year-old obese man. One week previously the patient had recovered from obstructive jaundice and at operation, numerous small stones are present in the gallbladder. In addition to cholecystectomy, the surgeon should also perform which of the following?

- A. No further treatment

- B. Liver biopsy
 C. Intraoperative cholangiogram
 D. Removal of the head of the pancreas
 E. CBD exploration
240. Choose the diseases for which Courvoisier sign is typical: 1. Chronic calculous cholecystitis; 2. Pancreatic cancer; 3. Acute pancreatitis; 4. Cancer of papilla Vateri; 5. Liver cirrhosis.
 A. 1, 2, 5;
 B. 3, 5;
 C. 2, 5;
 D. 2, 3, 5;
 E. 2, 4.
241. Name the indications for Intraoperative cholangiography: 1. Detection of stones in CBD during palpation; 2. Suspicion for scar narrow of papilla Vateri; 3. Jaundice before surgical intervention; 4. Diameter of CBD more than 10 mm; 5. Jaundice during surgical intervention.
 A. 1, 2, 3, 4;
 B. 1, 3, 4;
 C. 3, 4;
 D. 1, 3, 4, 5;
 E. All are correct.
242. Choose the most serious complications of mechanical jaundice:
 A. violation of absorption in small intestine;
 B. reduction of protein-synthesizing function of liver;
 C. hepatic-renal failure;
 D. gallbladder empyema;
 E. gallbladder hydrops.
243. Choose the indications for choledochotomy: 1. Biliary dyskinesia; 2. Acute cholangitis; 3. Gallbladder perforation and peritonitis; 4. Obstructive jaundice; 5. Detection of stones in CBD during palpation.
 A. 1, 3, 4;
 B. 2, 3, 4;
 C. 2, 3, 4, 5;
 D. 2, 4, 5;
 E. All are correct.
244. Which disease did not cause obstructive jaundice?
 A. 1,6 cm stone in gallbladder;
 B. Cancer of papilla Vateri;
 C. Residual stone in CBD;
 D. Pancreatic cancer;
 E. Choledocholithiasis.
245. Prehepatic jaundice is caused by:
 A. Hemolysis
 B. Gallstones
 C. Pancreatic cancer
 D. Renal failure
 E. Pancreatic pseudocyst
246. Posthepatic jaundice can be caused by all except:
 A. Gallstones
 B. Cholangitis
 C. Chronic pancreatitis
 D. CBD malignancy
 E. Acute hepatitis
247. Extrahepatic biliary tree consists of all except:
 A. Wirsung's duct
 B. Common hepatic duct
 C. Cystic duct
 D. Gallbladder
 E. Common bile duct
248. What is the most common benign causes of obstructive jaundice?
 A. Gallstones
 B. Strictures
 C. Chronic alcohol abuse
 D. Primary sclerosing cholangitis
 E. Liver cirrhosis
249. What is NOT the additional source of bilirubin production?
 A. Ineffective erythropoiesis
 B. Myoglobinemia
 C. Cytochromes metabolism
 D. Large hematoma lysis
 E. Gallstones dissolving
250. All diseases can cause hemolysis, except:
 A. Autoimmune disorders
 B. Hypersplenism
 C. Defects in hemoglobin structure
 D. Sickle cell disease
 E. Iron deficiency anemia

251. What are the most common causes of hepatitis? 1. Portal hypertension. 2. Alcohol. 3. Autoimmune disorders. 4. Cholelithiasis. 5. Viruses.
- 2,3,5
 - 1,2,4
 - 3,4,5
 - 1,3,4
 - 1,2,5
252. Chronic alcohol abuse may result in: 1. Fatty liver (steatosis). 2. Biliary tract infection. 3. Gallstone formation. 4. Cirrhosis. 5. Hepatitis.
- 2,4,5
 - 1,4,5
 - 2,3,4
 - 1,2,3
 - 1,3,5
253. Classically cholangitis is diagnosed clinically as syndrome known as Charcot's triad.
- Fever, hypotension and jaundice
 - Fever, RUQ pain and hypotension
 - Pruritus, RUQ pain and jaundice
 - Pruritus, hypotension, and jaundice
 - Fever, RUQ pain, and jaundice
254. Which enzymes are markers of biliary hypertension? 1. Alkaline phosphatase. 2. gamma glutamyl transpeptidase. 3. Enterocinase, 4. Acid phosphatase. 5. AST.
- 2,4
 - 1,5
 - 2,3
 - 1,2
 - 3,5
255. Bile is produced by the liver and contains all components, EXCEPT:
- Bile salts.
 - Water and electrolytes.
 - Cholesterol.
 - Bilirubin.
 - Vitamins A, K, D
256. ERCP and percutaneous transhepatic cholangiography are invasive and can be associated with following complications, EXCEPT:
- Cholangitis
 - Biliary leakage – biliary peritonitis
 - Pancreatitis
 - Bleeding
 - Obstructive jaundice
257. Which statement is NOT true?
- Intrahepatic disorders can lead to unconjugated-conjugated hyperbilirubinemia
 - Posthepatic disorders can cause conjugated hyperbilirubinemia
 - Bilirubin is a breakdown product of heme
 - Pancreatic cancer is associated with positive Courvoisier's sign
 - Common bile duct is divided into two parts: supraduodenal and retroduodenal
258. All diseases listed below can lead to extrahepatic biliary obstruction, EXCEPT:
- Choledocholithiasis
 - Acute viral hepatitis
 - Ampullary cancer
 - Pancreatic cancer
 - Biliary strictures
259. Decompression of extrahepatic biliary obstruction can be achieved by three methods: 1. Surgical bypass. 2. Percutaneous insertion of stents. 3. Endoscopic insertion of stents. 4. TIPS procedure. 5. Nasogastric decompression.
- 2,4,5
 - 1,4,5
 - 2,3,4
 - 1,2,3
 - 1,3,5
260. Which statements, concerning jaundice, is NOT true?
- High levels of circulating bile salts are associated with pruritus
 - Jaundice, dark urine, discoloration of stool and pruritus are the hallmark of obstructive jaundice
 - History of fever, biliary colic and intermittent jaundice may be suggestive of cholangitis or choledocholithiasis

- D. Weight loss, abdominal mass, pain radiating to the back and progressively deepening jaundice may be suggestive of pancreatic cancer
- E. A palpably enlarged gall bladder in a jaundiced patient is also suggestive of chronic alcohol abuse
261. Complications of obstructive jaundice are all of the following, EXCEPT:
- Sepsis caused by cholangitis
 - Biliary cirrhosis
 - Pancreatitis
 - Renal and liver failure
 - Respiratory failure
262. Chronic pancreatitis (CP) is characterized by (choose correct clues of CP pathogenesis): 1. Parenchymal fibrosis; 2. Ductal strictures; 3. Atrophy of acinar and islet tissue; 4. Pseudocyst formation; 5. CBD compression.
- 1, 2, 3
 - All correct
 - 2, 3, 4
 - 3, 4, 5
 - 1, 2, 4
263. Name main forms of CP: 1. Proliferative; 2. Calcific; 3. Degenerative; 4. Obstructive; 5. Inflammatory.
- 1, 2, 3
 - 2, 3, 4
 - 2, 4, 5
 - 3, 4, 5
 - 1, 4, 5
264. The most often reason causing CP is:
- Alcohol ingestion
 - Gallstones
 - Pancreatic cancer
 - Autoimmune disorders
 - Trauma of the pancreas
265. Name main clinical signs of CP: 1. Epigastric pain; 2. Vomiting; 3. Poor appetite; 4. Weight loss; 5. Positive Blumberg sign in RUQ
- 1, 2, 3
 - 2, 3, 4
 - 3, 4, 5
 - 2, 4, 5
- E. 1, 3, 4
266. Which instrumental examination is a reference standard diagnostic method for chronic pancreatitis?
- US
 - CT
 - MRCP
 - Plain abdominal film
 - ERCP
267. Choose indications for surgical treatment of CP: 1. Pseudocyst formation; 2. Disabling abdominal pain; 3. Disabling obstruction of adjacent hollow viscera; 4. Exocrine insufficiency; 5. Diabetes mellitus.
- 1, 2, 5
 - 2, 3, 4
 - 3, 4, 5
 - 1, 2, 3
 - 1, 2, 4
268. Longitudinal pancreaticojejunostomy is also known as:
- Puestow procedure
 - Whipple procedure
 - Billroth reconstruction
 - Bassini's operation
 - Hartman's procedure
269. The most common complication of CP is:
- Mechanical jaundice
 - Compression of duodenum
 - Pseudocyst
 - Diabetes mellitus
 - Exocrine insufficiency
270. A 40-year-old woman with severe chronic pancreatitis is scheduled to undergo an operation, because other forms of treatment have failed. The ultrasound shows no evidence of pseudocyst formation or cholelithiasis and endoscopic retrograde cholangiopancreatogram (ERCP) demonstrates dilated main pancreatic duct (12 mm) with multiple stricture formation. Which operation is suitable to treat this condition?
- Gastrojejunostomy
 - Pancreaticojejunostomy
 - Cholecystectomy

- D. Splenectomy
E. Subtotal pancreatectomy
271. A 45-year-old patient with chronic pancreatitis is suffering from malnutrition and weight loss secondary to inadequate pancreatic exocrine secretions. Which is TRUE regarding pancreatic secretions?
- Pancreas releases fluid poor in enzymes
 - Pancreas releases fluid rich in enzymes and bicarbonate
 - Cholecystokinin doesn't have influence into pancreatic secretion
 - All pancreatic enzymes are secreted in an active form
 - The pancreas produces proteolytic enzymes only
272. Which statement is WRONG concerning anatomy of the pancreas?
- Pancreas is located mesoperitoneally
 - Pancreas consists of head, neck, body and tail
 - The head of the gland lies nestled in the C-loop of the second part of the duodenum
 - The tail of the gland extends obliquely into the hilum of the spleen
 - The neck of the pancreas overlies the spine, where it is susceptible to injury in blunt abdominal trauma
273. The islets of Langerhans are small islands of endocrine cells within a sea of exocrine tissue, they does NOT consists of:
- A-cells
 - B-cells
 - C-cells
 - PP-cells
 - D-cells
274. The pancreas has a major exocrine function in the production of digestive enzymes. These include:
- Amylase, which functions in the breakdown of starches
 - Lipase, which functions to hydrolyze fatty acids
 - Trypsin and chymotrypsin, which function to degrade proteins
 - Enterokinase, which functions to hydrolaze proteins
 - Nucleases such as deoxyribonuclease and ribonuclease, which function to break down DNA and RNA, respectively
275. Choose TWO main etiological factors causing chronic pancreatitis: 1. Alcohol; 2. Autoimmune disorders; 3. Hyperlipidemia; 4. Pancreatic duct obstruction; 5. Idiopathic.
- 1, 2
 - 1, 3
 - 1, 4
 - 1, 5
 - 2, 5
276. All problems that compromise blood flow listed below can cause acute visceral ischemia, except?
- Acute embolic occlusion
 - Acute thrombotic occlusion
 - Nonocclusive mesenteric ischemia
 - Splanchnic artery aneurysm
 - Mesenteric veins thrombosis
277. Which clinical sings are typical for early stages of acute visceral ischemia?
- Severe abdominal pain, vomiting, diarrhea, leukocytosis
 - Mild abdominal pain, constipation
 - Pulsating abdominal mass
 - No typical clinical signs
 - Bloody stool, signs of peritonitis
278. Name later manifestations of acute visceral ischemia?
- Severe abdominal pain, vomiting, diarrhea, leukocytosis
 - Mild abdominal pain, constipation
 - Pulsating abdominal mass
 - No typical clinical signs
 - Bloody stool, signs of peritonitis
279. Which examination is considered to be a gold standard for diagnosis of acute visceral ischemia?
- Ultrasound
 - CT

- C. Selective mesenteric angiography
D. Duplex ultrasonography
E. MRI
280. Which examination is considered to be the best for screening of acute visceral ischemia caused by thrombotic ischemia or venous thrombosis?
A. Ultrasound
B. CT
C. Selective mesenteric angiography
D. Duplex ultrasonography
E. MRI
281. A 60-year-old man with a history of atrial fibrillation is found to severe abdominal pain, vomiting, diarrhea, $WBC=23 \times 10^9/l$. The embolus is most probably originating from which of the following?
A. An atherosclerotic plaque
B. An abdominal aortic aneurysm
C. Heart
D. Lungs
E. Paradoxical embolus
282. A 60-year-old man with a history of atrial fibrillation is found to severe abdominal pain, vomiting, diarrhea, $WBC=23 \times 10^9/l$. What is the most appropriate surgical treatment for this patient?
A. Embolectomy
B. Lumbar sympathectomy
C. Bypass surgery
D. Intestine resection
E. Heparinization
283. Name the most often cause for mesenteric thrombosis?
A. Blunt abdominal trauma
B. Arteriosclerotic plaque
C. Mesenteric artery aneurysm
D. Embolus
E. Vasospasm
284. A 66-year-old woman is admitted for hyperalimentation due to malnutrition consequent to massive small-bowel resection. What is the most likely condition that leads to the need to perform a massive resection?
A. Autoimmune disease
B. Mesenteric ischemia
C. Mesenteric adenitis
D. Cancer
E. Pseudomyxoma peritonei
285. Name the form of acute mesenteric ischemia which has the highest mortality rate?
A. Acute embolic occlusion
B. Acute thrombotic occlusion
C. Nonocclusive mesenteric ischemia
D. Splanchnic artery aneurysm
E. Mesenteric vein thrombosis
286. The intestine is viable in over 90% of patients if the duration of mesenteric ischemia symptoms lasts:
A. 12 hours or less
B. 24 hours or less
C. 36 hours or less
D. 48 hours or less
E. 72 hours or less
287. Superior mesenteric artery embolism can be caused by: 1. Aneurysm of the left ventricle after myocardial infarction; 2. Atrial fibrillation; 3. Bacterial endocarditis; 4. Right ventricle hypertrophy; 5. Pulmonary artery stenosis. Choose correct combination:
A. 1, 3, 4;
B. 1, 2, 3;
C. 2, 3, 4;
D. 2, 3, 5;
E. All are correct.
288. What can cause infarction of the intestine: 1. Superior mesenteric artery embolism; 2. Superior and inferior mesenteric artery embolism; 3. Superior mesenteric artery thrombosis; 4. Superior mesenteric vein thrombosis; 5. Prolonged spasm of small intestine arteries. Choose the BEST combination.
A. 1, 2, 3
B. 2, 3, 4
C. 3, 4, 5
D. All diseases can cause intestine infarction
E. None of these diseases can cause intestine infarction
289. In a patient with superior mesenteric artery embolism in stage of bowel infarction

(part of small intestine necrotised) should be performed the following operation:

- A. Thrombectomy
- B. Isolated embolectomy
- C. Embolectomy and resection of necrotised intestine
- D. Total colectomy
- E. Periarterial sympathectomy

290. A 42-years-old patient, who suffers from mitral stenosis and atrial fibrillation, 6 hours ago appeared severe abdominal pain, vomiting, diarrhea. On examination: tenderness in mesogastrium, negative Blumberg sign. CBC: Leukocytes – $21 \times 10^9/l$. What causes acute mesenteric ischemia in this case?

- A. Acute embolic occlusion of superior mesenteric artery
- B. Acute thrombotic occlusion of superior mesenteric artery
- C. Nonocclusive mesenteric ischemia
- D. Portal vein thrombosis
- E. Mesenteric vein thrombosis

291. Which parts of the GI tract will be ischemic in case of thrombosis of the orifice of superior mesenteric artery?

- A. Stomach and duodenum
- B. Stomach, duodenum and ileum
- C. Small intestine, cecum, colon ascendans
- D. Colon and rectum
- E. All parts of small and large intestine

292. Which operations we can perform in case of embolic occlusion of superior mesenteric artery (choose the best combination): 1. Embolectomy; 2. Embolectomy and resection of part of small intestine; 3. Embolectomy and left hemicolectomy; 4. Embolectomy and right hemicolectomy; 5. Total excision of ileum, jejunum and right hemicolectomy.

- A. 1, 2, 3
- B. 2, 3, 4
- C. 1, 4, 5
- D. 1, 2, 4
- E. All operations can be performed

293. Most often cause of acute mesenteric ischemia is:

- A. Embolisation to the superior mesenteric artery
- B. Thrombosis of superior mesenteric artery
- C. Nonocclusive mesenteric ischemia
- D. Portal vein thrombosis
- E. Mesenteric vein thrombosis

294. What can cause nonocclusive mesenteric ischemia (NOMI)? 1. Severe mesenteric vasoconstriction; 2. Myocardial infarction; 3. Septic shock; 4. Hemorrhagic shock; 5. Cardiac decompensation.

- A. 1, 2, 3
- B. 2, 3, 5
- C. 2, 3, 4
- D. None of these diseases cause NOMI
- E. All these diseases cause NOMI

295. In patients with acute mesenteric ischemia due to mesenteric embolism, which of the following statements is correct?

- A. Most oftenly embolization to inferior mesenteric artery is observed
- B. Embolus most oftenly originates from right heart
- C. Thrombolytic therapy may be attempted in patients without signs of bowel infarction or gastrointestinal bleeding
- D. Arteriography usually reveals the embolus lodged at the orifice of the superior mesenteric artery
- E. At the time of exploration in case of superior mesenteric artery embolism, ischemia is most severe in the left colon

296. A 68-year-old man is admitted to the coronary care unit with an acute myocardial infarction. His postinfarction course is marked by congestive heart failure and intermittent hypotension. On the fourth hospital day, he develops severe midabdominal pain. On physical examination, blood pressure is 90/60

mm Hg and pulse is 110 beats/min and regular; the abdomen is soft with mild generalized tenderness and distention. Bowel sounds are hypoactive; stool hematest is positive. The next step in this patient's management should be which of the following?

- A. Barium enema
- B. Upper gastrointestinal endoscopy
- C. Angiography
- D. Ultrasonography
- E. Celiotomy

297. The earliest symptom of CP is abdominal pain, choose WRONG statement concerning the pain in case of chronic pancreatitis:

- A. In CP, two pain patterns have been described: continuous and intermittent
- B. When pain is intermittent, episodes may be separated by pain-free intervals of months or years
- C. Episodes of continuous pain last from daily to 2- to 3-days per week for at least 2 months
- D. Pain appears in the epigastric region at the beginning of disease with a subsequent shift to the right iliac region
- E. Pancreatic pain is felt in the epigastrium or upper abdomen, with penetration to the back or radiation to the left intercostal region

298. With advancing disease, patients develop exocrine and endocrine insufficiency and thus lose the ability to digest protein and fat. Which statement is WRONG?

- A. The patient manifests diabetes mellitus and malabsorption on early (reversible) stage
- B. Protein malabsorption results in steatorrhea
- C. Since malnutrition impairs immunity, incidence of infection is likely to rise among affected patients
- D. With the destruction of insulin-producing pancreatic cells, the

patient may develop diabetes mellitus

- E. Fat malabsorption results in steatorrhea

299. Choose the combination of instrumental examinations, which can be used in patients with chronic pancreatitis? 1. Endoscopic US; 2. CT; 3. MRCP; 4. Plain abdominal film 5. ERCP.

- A. 1, 2, 5
- B. 1, 3, 5
- C. 1, 4, 5
- D. 2, 4, 5
- E. All can be used

300. In patients with chronic pancreatitis surgical treatment is indicated in: 1. Disabling pain, which interferes with the patient's ability to work, is refractory to pancreatic enzyme therapy, requires high doses of oral narcotics; 2. Diabetes mellitus; 3. Malabsorption; 4. ERCP evidence of a dilated pancreatic duct (> 6 mm); 5. Obstruction of CBD.

- A. 1, 2, 3
- B. 1, 3, 4
- C. 1, 4, 5
- D. 2, 3, 4
- E. All are indications for surgical treatment

301. In diagnosing CP in its early stages, clinicians should recognize that:

- A. Pain is present, to some degree, in all patients
- B. Pain may be absent in 10% and more patients
- C. Direct pancreatic secretory assessment remains the gold standard for diagnosing pancreatic insufficiency and is performed frequently
- D. Radiographic imaging confirms pancreatitis in early stages of the disease
- E. Endoscopic US is gold standard instrumental examination for making the diagnosis chronic pancreatitis

302. Name the most often complication of chronic pancreatitis:
- Left sided pleural effusion
 - Disseminated intravascular coagulation
 - Splenic vein thrombosis
 - Pancreatic pseudocyst
 - Pancreatic ascities
303. All statements concerning Chron's disease are true, except?
- Affects all parts of GI (from the oropharynx to the anus)
 - Nonspecific inflammation
 - Superficial (mucosal) inflammation
 - Ileocolic region affected most oftenly
 - Etiology is not known
304. All statements concerning Ulcerative colitis (UC) are true, except?
- Affects colon and rectum
 - Transmural inflammation
 - 20-30% of patients with UC have another family member with the disease
 - Etiology is not known
 - Smokers are in the risk group for UC
305. The typical complications of Chron's disease are all, except:
- Abdominal abscesses
 - Internal fistula
 - Intestinal obstruction caused by strictures
 - Sclerosing cholangitis
 - Hemorrhage
306. A 26-year-old man is present with mild clinical signs of Chron's colitis. What primary treatment this patient should be recommended:
- Right hemicolectomy
 - Left hemicolectomy
 - Treatment of anemia
 - Total coloproctectomy
 - Medical treatment with aminosalicylates
307. A 43-year-old woman undergoes investigation for colitis. In her history, it is noted that 20 years earlier she underwent a surgical procedure on the large intestine. Is the diagnosis more likely to be ulcerative colitis rather than Crohn's disease because at the previous operation?
- The serosa appeared normal on inspection, but the colon mucosa was extensively involved
 - There was evidence of fistula formation
 - All layers of the bowel wall were involved
 - Skip lesions were noted
 - The preoperative GI series showed a narrowing string like stricture in the ileum (string sign)
308. A 35-year-old man has known ulcerative colitis. Which of the following is an indication for total proctocolectomy?
- Occasional bouts of colic and diarrhea
 - Sclerosing cholangitis
 - Toxic megacolon
 - Arthritides
 - Iron deficiency anemia
309. A 54-year-old man with diarrhea is found to have ulcerative colitis. Colectomy should be advised in patients with ulcerative colitis who have symptoms that persist for more than which of the following?
- 1 month
 - 6 months
 - 1 year
 - 10–20 years
 - More than 25 years
310. A 48-year-old woman develops colon cancer. She is known to have a long history of ulcerative colitis. In ulcerative colitis, which of the following is a characteristic of colon cancer?
- Occurs more frequently than in the rest of the population.
 - Is more likely to occur when the ulcerative disease is confined to the left colon.
 - Occurs equally in the right and left side.
 - Has a synchronous carcinoma in 4–5% of cases.

- E. Has an excellent prognosis because of physician awareness.
311. A 40-year-old man with a long history of bloody diarrhea presents with increased abdominal pain, vomiting, and fever. On examination, he is found to be dehydrated and shows tachycardia and hypotension. The abdomen is markedly tender with guarding and rigidity. What is the most likely cause?
- Toxic megacolon in ulcerative colitis
 - Small-bowel perforation from regional enteritis
 - Perforated carcinoma of the sigmoid colon
 - Volvulus of the sigmoid colon
 - Acute perforated diverticulitis
312. A 25-year-old man has recurrent, indolent fistula in ano. He also complains of weight loss, recurrent attacks of diarrhea with blood mixed in the stool, and tenesmus. Proctoscopy revealed a healthy, normal-appearing rectum. What is the most likely diagnosis?
- Colitis associated with acquired immunodeficiency syndrome (AIDS)
 - Ulcerative colitis
 - Amoebic colitis
 - Ischemic colitis
 - Crohn's colitis
313. Perirectal abscess fistulous disease is most oftenly:
- Associated with a specific systemic disease
 - Associated with specific infection disease
 - Cryptoglandular in origin
 - Associated with hemorrhoids
 - Etiology is not known
314. According to their location perirectal abscesses are classified to (one answer is not correct):
- Superficial
 - Supralelevator
 - Ischiorectal
 - Intersphincteric
 - Perianal
315. The typical complications of perirectal abscess are all, except:
- Internal fistula
 - Hemorrhoids
 - Sphincter injury
 - Perineal sepsis
 - Chronic fistula
316. What imaging study is necessary to make diagnosis uncomplicated perirectal abscess fistula disease?
- Sinogram
 - Transrectal US
 - CT
 - No imaging study
 - MRI
317. The most effective treatment, which is successful in healing 90% of anal fissures, includes: 1. Stool softeners; 2. Laxatives; 3. Antibiotics; 4. NSAIDs; 5. Sitz bath.
- 1, 2, 3
 - 1, 2, 4
 - 2, 3, 4
 - 3, 4, 5
 - 1, 2, 5.
318. Uncomplicated interanal hemorrhoids typically are associated with:
- Anorectal pain
 - Pain after defecation
 - Thrombosis
 - Perirectal abscesses
 - Bright-red bleeding per rectum
319. Interanal and external hemorrhoids can develop all complications except:
- Incarceration
 - Necrosis
 - Perianal condylomas
 - Thrombosis
 - Bleeding
320. Proctoscopy reveals nonbleeding grade I hemorrhoids. Indications for surgical treatment are all except:
- III-IV grade hemorrhoids
 - Severe bleeding
 - Thrombosis
 - I-II grade hemorrhoids
 - Necrosis

321. Why during hemorrhoidal bleeding the blood is bright-red?
- A. Hemorrhoidal vein have lots of shunts with rectal arteries
 - B. Hemorrhoids never bleed
 - C. Hemorrhoids develops from arteries
 - D. Bleeding is associated with coagulopathy
 - E. Most oftenly upper parts of colon are bleeding, which are richly vascularized
322. A 44-year-old man has recurrent hemorrhoids. What treatment modality is not indicated in case of recurrency?
- A. Conventional surgery
 - B. Minimally invasive treatment
 - C. Increasing dietary fiber
 - D. decreasing constipating foods,
 - E. decreasing time spent on the toilet