**1. Which of the following histologic features of hepatocellular injury is prognostically least favourable:**

1. councilman body formation
2. bile infarct formation
3. collagen formation
4. ballooning degeneration of hepatocytes
5. lobular inflammatory cell infiltrates

**2. Which of the following refers to hepatorenal syndrome:**

1. functional failure of a morphology normal kidney associated with severe liver disease
2. simultaneous toxic damage to the liver and kidneys with functional failure of both
3. immune complex glomerulopathy from chronic antigenemia associated with chronic viral hepatitis
4. acute tubular necrosis due to hypotension after a gastrointestinal bleed in a cirrhotic patient

e. all of the listed

**3. All of the following statements about fulminant viral hepatitis are true, EXCEPT:**

1. It is more common than fulminant hepatitis caused by drugs
2. It is severity is proportional to the immune response to the virus
3. Death usually within 24 hours of the onset of symptoms
4. Histologically, it is commonly indistinguishable from drug induced fulminant hepatitis
5. Survivors usually have lifelong immunity to recurrent infection

**4. Causes of cirrhosis in infancy include all of the following, EXCEPT:**

1. Wilson disease
2. alpha antitrypsin deficiency
3. total parenteral nutrition
4. extrahepatic biliary atresia
5. galactosemia

**5. In which of the following conditions is found Mallory hyaline within hepatocytes:**

1. carbon tetrachloride toxicity
2. Wilson disease
3. viral hepatitis
4. alcoholic liver disease
5. liver cirrhosis

**6. Causes of chronic active hepatitis include:**

1. Wilson's disease
2. alpha antitrypsin deficiency
3. alchohol
4. appendicitis
5. typhoid fever

**7. Which of the following types of liver tumors is most commonly associated with the oral contraceptives:**

1. bile duct adenoma
2. bile duct hamartroma
3. focal nodular hyperplasia
4. hepatocellular carcinoma
5. hepatocellular adenoma

**8. Conditions that are considered to increase the risk for developing of hepatocellular carcinoma include:**

1. alchohol-related cirrhosis
2. HBV-related cirrhosis
3. idiopathic hemochromatosis
4. primary biliary cirrhosis
5. secondary biliary cirrhosis

**9. The most common tumor of the liver it is:**

1. cholangiocarcinoma
2. hepatocellular carcinoma
3. hemangiosarcoma
4. liver cell adenoma
5. metastatic carcinoma

**10. In patients with the most common form of gallstones, the liver secretes more:**

1. bile salts
2. 7 alpha - hydroxylase
3. low density lipoproteins
4. cholesterol
5. calcium carbonate

**11. Alcoholic fatty liver is associated with each of the following, EXCEPT:**

1. decreased membrane phospholipids formation
2. decreased fatty acid oxidation
3. increased triglyceride synthesis
4. decreased lipoprotein synthesis
5. increased mobilization of fatty acids from periphery

**12. The hepatorenal syndrome is associated principally with:**

1. microvesicular fatty liver
2. intrahepatic cholestasis
3. hepatocellular carcinoma
4. cirrhosis
5. extrahepatic biliary obstruction

**13. Unconjugated bilirubin is derived principally from:**

1. glucuronyl transferase activity
2. toxic liver injury
3. breakdown of senescent red blood cells
4. decreased intracellular bilirubin transport
5. decreased ligandin

**14. Which of the following is associated with destructive cholangitis:**

1. hepatitis B
2. alcoholic hepatitis
3. primary biliary cirrhosis
4. neonatal hepatitis
5. Dubin-Johnson syndrome

**15. Central sclerosis of the liver diseases is associated with:**

1. hepatitis B
2. alcoholic hepatitis
3. autoimmune hepatitis
4. neonatal hepatitis
5. Dubin-Johnson syndrome

**16. The most common cause of hepatocellular carcinoma is:**

1. hepatitis B
2. alcoholic hepatitis
3. autoimmune hepatitis
4. neonatal hepatitis
5. Dubin-Johnson syndrome

**17. Mallory hyaline is associated with:**

1. autoimmune hepatitis
2. alcholic hepatitis
3. hepatitis B
4. hepatitis D

e. hepatitis C

**18. Predominantly unconjugated hyperbilirubinemia is typical of :**

1. intravascular hemolysis
2. carcinoma of common bile ducts
3. carcinoma of gallbladder
4. carcinoma of the head of the pancreas
5. viral hepatitis

**19. Ballooned hepatocytes and acidophilic bodies found in a liver biopsy are most indicative of :**

1. alcoholic hepatitis
2. acute viral hepatitis
3. primary biliary cirrhosis
4. hemochromatosis
5. cardiac cirrhosis

**20. The liver of a patient with right-sided heart failure shows:**

1. acute necrosis
2. centrilobular congestion
3. portal vein thrombosis
4. chronic inflammation in the periportal zone
5. nodular regeneration

**21. So-called "bile infarcts" are associated with which of the following:**

1. drug injury
2. hepatitis B
3. alcoholic hepatitis
4. extrahepatic biliary obstruction
5. Wilson disease

**22. Hepatitis A is transmitted primarily by which of the following routes:**

1. blood transfusions
2. snake bites
3. fecal-oral
4. sexual transmission
5. intravenous drug abuse

**23. Which of the following regarding acidophilic bodies is true:**

1. they consist primarily of Mallory hyaline
2. they are necrotic hepatocytes
3. they occur primarily in the setting of chronic persistent hepatitis
4. they can be seen in 25-50% of normal livers
5. they are formed by cytokeratin

**24. Histologic features of acute alcoholic hepatitis include each of the following, EXCEPT**

1. fatty change
2. Mallory bodies
3. infiltration by neutrophils
4. infiltration by monocytes
5. injured hepatocytes

**25. Extrahepatic biliary obstruction is caused by each of the following, EXCEPT**

1. pancreatic carcinoma
2. carcinoma of the ampulla of Vater
3. bile duct carcinoma
4. advanced cirrhosis
5. sclerosing cholangitis

**26. Which of the following conditions could lead to the development of portal hypertension:**

1. cirrhosis
2. portal vein thrombosis
3. severe right sided heart failure
4. hepatic vein thrombosis (Budd-Chiari syndrome)
5. all of the listed

**27. You are evaluating a liver biopsy from a patient with acute viral hepatitis. Which of the following would you expect to see:**

1. abscesses
2. granulomas
3. lymphocytes in portal tracts
4. regenerative nodules
5. well-developed scar tissue

**28. You are caring for an elderly gentleman with a history of ischemic heart disease who has an enlarged and tender liver.You notice that he also has edema of the lower extremities.Gross examination of his liver would most likely reveal:**

1. fibrosis
2. inflammatory exudates
3. nodules
4. "nutmeg" pattern
5. tumor

**29. You are examining a patient with advanced cirrhosis. What would you expect to find:**

1. cervical lymphadenopathy
2. distended abdomen with fluid wave
3. massive hepatomegaly
4. muscular hypertrophy
5. small spleen

**30. It is likely that a gallstone will produce jaundice if impacted in any of the following anatomic sites, EXCEPT:**

1. ampulla of Vater
2. common bile duct
3. common hepatic duct
4. confluence of common bile duct and pancreatic duct
5. cystic duct

**31. In a patient with a history of viral hepatitis, why is it important to know which virus was involved:**

1. to determine the probability of progressive chronic hepatitis
2. to have a better idea of therapeutic options
3. to determine whether the patient can transmit the disease to others
4. to assess risk of malignancy
5. all of the listed

**32. Which of the following is LEAST likely to be associated with portal hypertension due to liver cirrhosis:**

1. ascites
2. pulmonary hypertension
3. spontaneous bacterial peritonitis
4. thrombocytopenia
5. hepatorenal syndrome

**33. Which of the following is associated with the highest rate of progression to chronic hepatitis:**

1. hepatitis A virus
2. hepatitis B virus
3. hepatitis C virus
4. hepatitis D virus
5. hepatitis G virus

**34. The initial step of the fulminant liver necrosis is characterized by:**

1. liver hardening
2. sagging and wrinkled capsule
3. fatty degeneration of hepatocytes and necrobiosis in the center of the lobules
4. the rapid expansion of sinusoids
5. hepatomegaly

**35. Histologic pattern of acute alcoholic hepatitis is reduced to:**

1. fatty degeneration of hepatocytes
2. necrosis biliary ducts
3. leukocyte infiltration and portal tracts necrosis
4. appearance of Russell cells
5. appearance of Mallory bodies

**36. Liver cirrhosis is followed by :**

1. portal hypertension
2. development of intrahepatic porto-caval anastomoses
3. development of extrahepatic porto-caval anastomoses
4. development of hydrothorax
5. liver laxity

**37. The following cirrhosis types are distinguished on the morphogenesis background:**

1. alcoholic
2. postnecrotic
3. necrotic
4. portal
5. biliary

**38. Hepatic steatosis is characterized by:**

1. proteic dystrophy of hepatocytes
2. lipidic dystrophy of hepatocytes
3. mineral dystrophy of hepatocytes
4. liver hemosiderosis
5. glycogen infiltration of hepatocytes

**39. Viral hepatitis outcomes:**

1. the full restoration of the structure
2. transition of acute hepatitis in chronic
3. transition to hepatosis
4. liver cirrhosis
5. amyloidosis of liver

**40. Progressive massive liver necrosis is accompanied by:**

1. ascites
2. jaundice
3. varices
4. regional lymph node hyperplasia

E hemorrhagic syndrome

**41. What are the two factors that lead to the postnecrotic liver cirrhosis:**

1. fulminant liver degeneration
2. viral hepatitis
3. parasitic hepatitis
4. alcoholic hepatitis
5. bacterial hepatitis

**42. Acute hepatitis can be:**

1. hemorrhagic
2. persistent
3. serous
4. cholestatic
5. purulent

**43. Liver in primary biliary cirrhosis is:**

1. dramatically reduced in size
2. increased in size
3. dense in consistence
4. yellow collared
5. grey-green collared

**44. Epidemic viral hepatitis is characterized by:**

1. alimentary contamination
2. parenteral contamination
3. malignant evolution
4. long incubation period
5. fecal-oral contamination

**45. Decompensated portal hypertension is manifested by:**

1. jaundice
2. ascites
3. esophageal varices
4. a stroke
5. pulmonary hemorrhage

**46. Decompensated portal hypertension is usually complicated by:**

1. pulmonary edema
2. ascites
3. gastrointestinal bleeding
4. hemorrhoids
5. brain hemorrhage

**48. Fulminant massive liver necrosis is usually accompanied by:**

1. ascites
2. hydrothorax
3. varices
4. jaundice
5. hemorrhagic diathesis

**49. Biliary cirrhosis is divided into:**

1. postnecrotic
2. septal
3. primary
4. secondary
5. multicentric

**50. The following are histologic types of liver carcinoma:**

1. postcirrhotic
2. hepatocellular
3. cholangiocellular
4. adenomatous
5. Precirrhotic

**51. Identify the name of the pathological process:**

1. acute massive necrosis of liver.
2. acute viral hepatitis
3. hepatocellular carcinoma on the background of liver cirrhosis.
4. cancer metastasis into liver.
5. gallstones in the bile ducts

**52. Identify the morphological changes of the pathological process:**

1. the extensive area of necrosis (tissue debris) in the center of the liver lobule.
2. clusters of polymorphic atypical cells with basophilic nuclei.
3. the inflammatory infiltrate in the area of necrosis.
4. fatty and hyaline degeneration of hepatocytes at the periphery of the lobule.
5. adjacent liver tissue with cirrhotic changes.

**53. The causes of the pathological process from image are:**

1. aflatoxin.
2. infection with hepatitis B.
3. infection with hepatitis C.
4. defective excretion of copper into bile.
5. increased iron absorption.

**54. Identify the name of the pathological process.**

1. acute massive necrosis of liver.
2. acute viral hepatitis
3. hepatocellular carcinoma on the background of liver cirrhosis.
4. cancer metastasis into liver.
5. liver micronodular cirrhosis.

**55. Identify the morphological changes of the pathological process:**

1. the extensive area of necrosis (tissue debris) in the center of the liver lobule.
2. clusters of polymorphic atypical cells with basophilic nuclei.
3. the inflammatory infiltrate in the area of necrosis.
4. thin bundles of connective tissue in the liver lobules, which join together the central veins with portals vessels.
5. "pseudolobules".

**56. The causes of the pathological process from image are:**

1. tricuspid valvulopathy (stenosis, incompetence)
2. liver infarction
3. Budd-Chiari syndrome
4. viral hepatitis
5. chronic alcoholism

**57. The causes of the pathological process from image are:**

1. chronic hepatic venous congestion
2. viral hepatitis
3. helicobacter pylori
4. amyloidosis
5. Zollinger-Ellison syndrome

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**58. Identify the name of the pathological process:**

1. cholesterol cholelithiasis
2. papillary adenoma of gallbladder
3. carcinoma of the Gallbladder
4. choledochal cyst
5. chronic cholecystitis

**59. The causes of the pathological process from image are:**

1. obesity
2. oral contraceptives
3. diabetes mellitus
4. Budd-Chiari Syndrome
5. viral hepatitis

**60. Factors that were involved in the pathological process in the image:**

1. obesity
2. oral contraceptives
3. diabetes mellitus
4. Budd-Chiari Syndrome
5. viral hepatitis

**61. Complications of the pathological process from image are:**

1. acute cholecystitis
2. empyema of gallbladder
3. rupture of gallbladder
4. obstructive jaundice
5. angiosarcoma of the gallbladder

**62. Identify the name of the pathological process.**

a. acute massive necrosis of liver.

b. acute viral hepatitis

c. hepatocellular carcinoma on the background of liver cirrhosis.

d. cancer metastasis into liver.

e. liver micronodular cirrhosis.

**63. Identify the morphological changes of the pathological process:**

1. the extensive area of necrosis (tissue debris) in the center of the liver lobule.
2. clusters of polymorphic atypical cells with basophilic nuclei.
3. the inflammatory infiltrate in the area of necrosis.
4. fatty and hyaline degeneration of hepatocytes at the periphery of the lobule.
5. "pseudolobules".

**64. The causes of the pathological process from image are:**

1. chronic hepatic venous congestion
2. viral hepatitis
3. helicobacter pylori
4. carbon tetrachloride
5. Zollinger-Ellison syndrome

**65. The causes of the pathological process from image are:**

1. acetaminophen.
2. viral hepatitis B.
3. viral hepatitis C.
4. defective excretion of copper into bile.
5. increased iron absorption.

**66. Complications of the pathological process from image are:**

1. jaundice
2. hemorrhagic syndrome
3. hepatic encephalopathy
4. hepatorenal syndrome
5. acute respiratory distress syndrome

**67. Identify the name of the pathological process.**

1. acute massive necrosis of liver.
2. acute viral hepatitis
3. hepatocellular carcinoma on the background of liver cirrhosis.
4. cancer metastasis into liver.
5. liver micronodular cirrhosis.

**68. Identify the morphological changes of the pathological process.**

1. the extensive area of necrosis (tissue debris) in the center of the liver lobule.
2. vacuolar degeneration of hepatocytes at the periphery of the lobule.
3. lymphocytic and plasmacytic infiltration of portal tracts.
4. thin bundles of connective tissue in the liver lobules, which join together the central veins with portals vessels.
5. "pseudolobules".

**69. Consequences of pathological process in the image are:**

1. jaundice
2. bleeding tendency (decreased prothrombin)
3. hepatic encephalopathy
4. hepatorenal syndrome
5. acute respiratory distress syndrome

**70. What is it causes the pathological process in the image**

1. chronic Hepatic Venous Congestion
2. viral Hepatitis
3. helicobacter pylori
4. acute Hepatic Venous Congestion
5. Zollinger-Ellison syndrome

**71. Hepatic cirrhosis is defined as:**

1. focal pathological process characterized by fibrosis and replacement of normal liver architecture by nodules with abnormal structure
2. diffuse pathological process characterized by fibrosis and replacement of normal liver architecture by nodules with abnormal structure
3. a diffuse pathological process characterized by lipidic degeneration and chronic inflamatory portal infiltration
4. pathological process characterized by focal purulent inflammation
5. pathological process characterized by inflammation of intrahepatic bile ducts

**72. The main microscopic characteristics of liver cirrhosis are:**

1. fibrous nodules
2. fibrous septa
3. parenchymal nodules
4. inflammatory infiltration
5. newly formed blood vessels

**73. The most important source of excess of collagen in liver cirrhosis is:**

1. Ito cells (perisinusoidal stellate cells)
2. Kupffer cells (stellate reticuloendotheliocytes)
3. inflammatory cells
4. hepatocytes
5. sinusoidal endothelial cells

**74. Parenchymal regenerative nodules in cirrhosis of the liver derives from:**

1. long - term surviving hepatocytes
2. new hepatocytes appeared from stem cells
3. fibroblasts
4. bile duct epithelial cells
5. blood vessels

**75. Identify causes of liver cirrhosis:**

1. viruses
2. alcohol
3. medicines
4. polluted ai
5. X rays

**76. The causes of liver cirrhosis are all listed, EXCEPT:**

1. chronic viral hepatitis B
2. chronic viral hepatitis C
3. Alcoholic and non-alcoholic steatohepatitis
4. hemochromatosis
5. hepatic echinococcosis