

Question 12 – November 16

A 28 year old male with a past medical history of depression presents to the emergency department with fever, jaundice and abdominal pain. Physical exam is notable for a heart rate of 110, blood pressure of 95/60 mmHg, respirations 20/min and temperature of 100.4 degrees Fahrenheit. The patient is jaundiced with no evidence of chronic liver disease. He has a distended abdomen with mild diffuse tenderness to palpation and shifting dullness. Laboratory findings are notable for a white blood cell count of 11.5, hemoglobin 10.2 platelets 90, AST 180 U/L, ALT 98 U/L, alkaline phosphatase 160 U/L, total bilirubin 6.2 mg/dL, INR 1.5. Blood and urine cultures are sent. Chest x-ray shows a right-sided pleural effusion. Right upper quadrant ultrasound performed in the emergency department is notable for diffuse gallbladder wall thickening without pericholecystic fluid and no evidence of intrahepatic or extrahepatic biliary ductal dilation. There is no Murphy's sign. Tylenol level, alcohol level and urine toxicology screen are negative. Viral hepatitis serologies, anti-nuclear antibody, antismooth muscle antibody, and serum ceruloplasmin are normal. A liver biopsy is performed.

Which of the following is the most likely to be seen on liver biopsy?

- A. Plasma cell infiltrate
- B. Microvesicular steatosis
- C. Eosinophilic cytoplasmic inclusion bodies
- D. Onion-skinning of bile ducts
- E. Periodic acid Schiff (PAS) positive globules

Answer: C

This patient presents with alcoholic hepatitis. Though a liver biopsy is not needed to make the diagnosis of alcoholic hepatitis, if a liver biopsy were to be performed it would reveal hepatocellular injury characterized by ballooned (swollen) hepatocytes containing amorphous eosinophilic inclusion bodies called Mallory bodies (alcoholic hyaline) surrounded by neutrophils in addition to large fat globules (macrovesicular steatosis). Mallory bodies are found in up to 65% of cases of alcoholic hepatitis, but are also a recognized feature of Wilson's Disease (25%), primary biliary cirrhosis (24%), and nonalcoholic steatohepatitis (NASH) (24%). Plasma cell infiltrate is a classic feature of autoimmune hepatitis. The term "microvesicular steatosis" refers to a variant form of hepatic fat accumulation whose histologic features contrast with the much more common macrovesicular steatosis. Microvesicular steatosis is thought to be due to mitochondrial defects and is seen in conditions such as acute fatty liver of pregnancy, Reye's syndrome, sodium valproate toxicity, tetracycline toxicity and certain congenital defects of the urea cycle. Onion-skinning is a histologic finding that results from necrosis of the bile ducts, seen commonly in primary sclerosing cholangitis (PSC). Periodic acid Schiff (PAS) staining positive globules are typically a feature of liver disease due to alpha-1 antitrypsin deficiency.

Reference:

Reddy R, Faust T. The Clinician's Guide to Liver Disease, Slack, Inc. 2006. Ed: Lichtenstein.