Question 32 – April 11

A 38 year old female with a past medical history of Crohn's disease presents to the emergency department with 1 week of fever 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. There is scleral icterus, a distended abdomen with mild diffuse tenderness to palpation and shifting dullness. Liver span is 15cm by percussion. Laboratory findings are notable for a white blood cell count of 10.8, AST 280 U/L, ALT 172 U/L, alkaline phosphatase 160 U/L, total bilirubin 3.2 mg/dL, INR 1.5, serum albumin 3.5 g/dL. Blood and urine cultures are sent. Chest x-ray shows small bilateral pleural effusions. Right upper quadrant ultrasound performed in the emergency department is notable for moderate ascites, diffuse gallbladder wall thickening without pericholecystic fluid and no evidence of intrahepatic or extrahepatic biliary ductal dilation. There is no Murphy's sign. Diagnostic paracentesis is performed and findings are shown below:

White cell count: 150 (60% neutrophils, 30% lymphocytes, 10% monocytes)
Red cell count: 40
Total Protein 4.2 g/dL
Albumin: 2.0 g/dL

What is the most appropriate next step in management?

A. Obtain an MRCP.
B. Perform an ERCP.
C. Obtain an echocardiogram.
D. Obtain a liver ultrasound with Doppler.

Answer: D

This patient presents with Budd-Chiari syndrome, a condition caused by occlusion of the hepatic veins. It presents with classic triad of abdominal pain, ascites, and hepatomegaly. Therefore, the most appropriate next step in evaluation is to obtain a liver ultrasound with Doppler. The ascitic fluid analysis demonstrates a high serum-ascites albumin gradient (SAAG, $\geq$ 1.1 g/dL) consistent with portal hypertension. The high total protein ($\geq$ 2.5) is consistent with Budd-Chiari. The differential diagnosis for a high SAAG, high total protein ascites includes congestive heart failure and constrictive pericarditis, however this is considered less likely given the current presentation. An MRCP is useful to diagnose gallstone disease and would not help to identify a venous thrombosis. Ceftriaxone is the treatment of choice for spontaneous bacterial peritonitis but would not be the appropriate next step in this situation. Zosyn is often used as empiric therapy for cholangitis which does not lead to rapid onset of ascites.

Reference:

Menon KV, Shah V, Kamath PS. The Budd Chiari Syndrome. N Engl J Med. 2004 Feb 5;350(6):578-85