Guidelines on Urgent Diagnostic Paracentesis: Patient Selection and Key Considerations

RECOMMENDATIONS:

A. Diagnostic paracentesis should be performed as soon as reasonably possible for patients with **cirrhosis, ascites** and one or more of the following:
   a. Acute change in mental status
   b. Abdominal pain or tenderness
   c. Acute kidney injury
   d. Fever or leukocytosis significantly worsened from baseline
   e. Hyponatremia worsened from baseline
   f. Total bilirubin elevation
   g. MELD score worsened from baseline (this may overlap with above items)

B. There is no clear evidence on the benefit of routine diagnostic paracentesis on patients being admitted for a non-liver related indication or a primary diagnosis not described in part A above. Examples: trauma/injuries requiring admission for repair, acute coronary syndrome, stroke, social admissions.

C. Key considerations:
   a. When there is limited ascitic fluid collected, prioritize sending the **fluid cell count.**
   b. There is no specific INR contraindication to a paracentesis; it can also be performed in the setting of thrombocytopenia. However, for platelet counts <30K consider or INR significantly above baseline, consider discussion with liver team prior to tap.
   c. Avoid puncturing areas concerning for skin/soft tissue infection or surgical scars
   d. In general, a 2cm or wider pocket of ascitic fluid is considered safe to tap
   e. Liver fellow is available to discuss risk/benefit safety profile in individual cases
   f. Ultimately, the attending of record decides safety of performing any paracentesis

Clinical questions or concerns should be escalated to the On Call Liver Fellow (Amion)*

BACKGROUND:

Guidelines from the AASLD and EASL suggest every patient with ascites secondary to cirrhosis should receive a diagnostic paracentesis prior to admission to evaluate for spontaneous bacterial peritonitis (SBP).[1,2] Evidence suggests a delay in diagnosis of SBP can increase the risk of 30-day mortality and 30-day hospital readmission rates.[3,4,5,6,7] Delaying or omitting the diagnosis of SBP can lead to acute on chronic decompensation of cirrhotic liver and kidney function, which are independent factors for mortality and readmission.[8] There are minimal independent studies on this topic from the ED literature.[9,10,11]

Clinical suspicion is often not sensitive enough to rule out SBP. A study by Chinnock et al found that clinical impression was 76% sensitive and 34% specific for correctly identifying SBP, demonstrating clinical characteristics and physician assessment are insufficient to exclude or diagnose SBP.[12] Another study by Yo et al. found SBP was positively correlated with afebrile bacteremia suggesting relying on typical signs and symptoms of infection such as fever and abdominal pain may miss the diagnosis of SBP in an at-risk population.[13] Given the prevalence of SBP is approximately 5% among patients with ascites, the Liver-specialty guidelines generally recommend diagnostic paracentesis prior to admission.

PURPOSE:

To identify which patients will benefit from diagnostic paracentesis.

SCOPE:

ED patients presenting with cirrhosis and ascites.

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