



Malignancy Diagnosed via Ascites Analysis and EUS-Guided Portal Pressures



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Introduction

Ascites is the pathologic accumulation of fluid within the peritoneum and is classified by underlying etiology. Workup includes measurement of the serum ascites albumin gradient (SAAG) and ascitic protein levels with imaging modalities used as adjuvant tests. Although cirrhosis is the most common cause, other causes can include malignancy, infections, or congestive heart failure. We present a case of EUS-guided portal pressure measurements and liver biopsy being used to differentiate etiology of ascites when lab workup and imaging findings were incongruent.

Case Presentation

Patient is a 48-year-old female who presented with new-onset ascites. Abdominal ultrasound showed nodular contour of the liver with ascites suggestive of cirrhosis. Patient denied any alcohol use, drug use, or family history of liver disease. She underwent paracentesis and fluid analysis revealed a SAAG of 0.8, ascitic protein 4.3 gm/dL, and negative culture and cytology. Because of discordance between imaging findings and ascitic fluid analysis, she underwent EUS-guided portal pressure measurements and liver biopsy. EUS of the liver showed sharp borders and homogenous echotexture of the liver. EUS-guided portal pressure gradient was 0, indicating no evidence of portal hypertension and liver biopsy was inconsistent with cirrhosis. Further workup revealed elevated CA-125 and transvaginal ultrasound showed bilateral complex cystic and solid adnexal masses. She underwent surgical resection and biopsy of a peritoneal wall mass which was consistent with mucin producing adenocarcinoma.



Figure 1: Transvaginal ultrasound of left adnexa representing complex cystic structure concerning for malignancy



Figure 2: Axial view CT abdomen demonstrating ascites

Discussion

The gold standard for diagnosis of cirrhosis is liver biopsy, but several imaging modalities have been used as reliable alternatives. Nodularity is the most common imaging finding in cirrhosis, however imaging is subject to observer variability. CT is more sensitive, but often appears normal at early stages. Our case demonstrates a patient in whom ascites was assumed to be due to cirrhosis based on imaging, but EUS-guided portal pressures and liver biopsy were used to rule out cirrhosis and portal hypertension. These findings prompted additional workup which led to the diagnosis of ovarian malignancy. Ruling out portal hypertension allowed for surgical risk stratification. We recommend a comprehensive workup when ascites analysis and imaging are discordant.

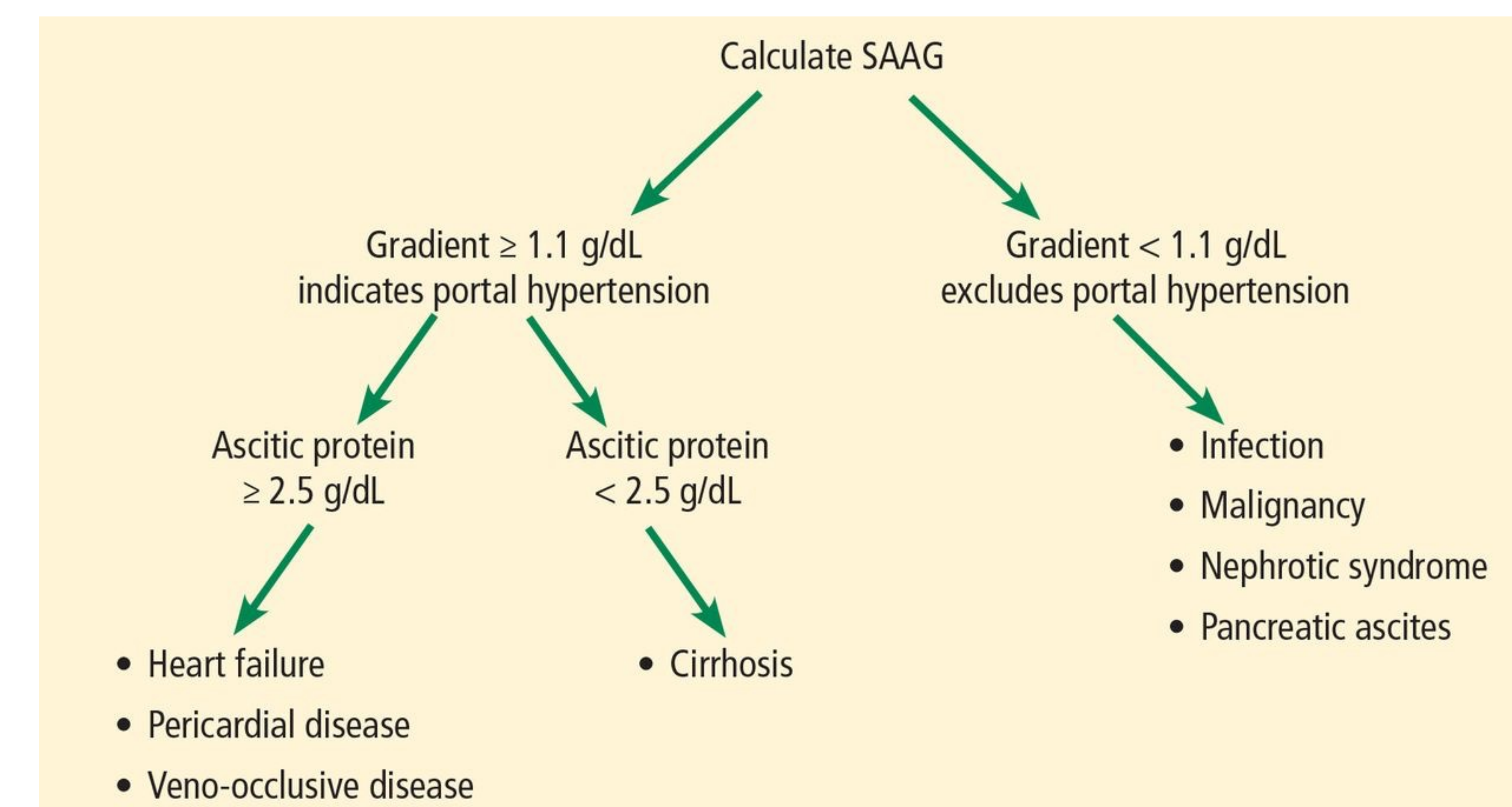


Figure 3: Workup and differential of ascites¹

References

1. Lippert WC, Lee EY, Mirrakhimov AE. A woman, age 35, with new-onset ascites. Cleve Clin J Med. 2019 Apr;86(4):257-262. doi: 10.3949/ccjm.86a.17082. PMID: 30951454.