

HCV and cirrhosis screening

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Story from the Front Lines

A man in his 50s with a history of hypertension and hepatitis C was referred for treatment for his HCV. Liver function tests were normal and he had no exam findings suggestive of cirrhosis. In the evaluation prior to treatment, a baseline ultrasound was obtained. The liver size and echogenicity were normal, but the echotexture of the liver was slightly coarsened and there was mild nodularity of the liver surface. There was no ascites, splenomegaly, or other evidence of portal hypertension. He was advised that liver cirrhosis was present and recommended to begin variceal and hepatocellular carcinoma (HCC) screening. His endoscopic gastroduodenoscopy (EGD) showed a single column of very subtle grade I varices. He underwent triple phase liver CT 6 months after the ultrasound which was not suggestive of cirrhosis. His Fib-4 score was also low, and with only one questionable finding of portal hypertension, I was not confident in the diagnosis. He ultimately underwent transient elastography (TE) and his score was in the normal range, not suggestive of fibrosis. Thus, while he will require a follow-up EGD, if that is normal, he will not require any beyond that additional one, nor HCC screening.

Teachable moment

It was unclear when this patient was referred what the standard of care was regarding screening for cirrhosis in patients infected with HCV, and if the ultrasound was appropriate especially since it resulted in a number of other downstream tests. The IDSA requirements only require labs, not imaging, prior to treatment. However, HCV is a significant risk factor for the development of cirrhosis, so it is reasonable to perform imaging when a diagnosis of HCV is made. The gold standard for diagnosis of cirrhosis is liver biopsy though it is an invasive test with attendant risks of harm. There are numerous lab test combinations as well as a few imaging modalities that have been studied. However, as in this case, their collective diagnostic accuracies are imperfect. While ultrasound is the standard for HCC screening, it doesn't have a well-established role in the diagnosis of cirrhosis, with a sensitivity and specificity of about 80%. Per the EASL (European Association for the Study of the Liver) Clinical Guidelines, the non-invasive standard is to combine a serum biomarker with TE. The use of TE is also supported by the National Institute for Health and Care Excellence. It's a reliable method for ruling out cirrhosis, but not as good as ruling it in, with NPV 96% and PPV 74%. Additionally, TE is expensive and not as accessible in the US as compared to Europe. TE and serum biomarkers have been shown to have equivalent performance for detecting fibrosis, though TE outperforms serum biomarkers for detecting cirrhosis. One of the more commonly used labs scores used in the US is the Fib-4 score, which was originally used for evaluation of HIV-HCV co-infected patients, but has since been extrapolated to HCV mono-infected patients. For a low score, it's NPV was 94.7% with a sensitivity of 74%, and for a high score it's PPV was 82% with a specificity of 98%. This has been felt to be reasonable for the initial evaluation by many clinicians. Given the important clinical implications, in terms of prognosis, monitoring, and treatment decisions that follow the diagnosis of cirrhosis, it is prudent to be as accurate as possible. Whether or not imaging in addition to serum biomarkers is needed, is not fully agreed upon. TE is not widely accessible in the US, so ultrasound and CT, though imperfect, will likely continue to fill a diagnostic role. However, in this case where two non-invasive tests were discordant (low Fib-4 and US with fibrotic changes), repeat or alternate exams such as liver biopsy should be completed prior to making a diagnosis of cirrhosis.

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