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LETTER TO THE EDITOR

Letter to editor 'Non-invasive model for predicting high-risk esophageal varices based on liver and spleen stiffness'

Xin Gao, Xiao-Yan Guo, Long-Bao Yang, Zhong-Cao Wei, Pan Zhang, Ya-Tao Wang, Chen-Yu Liu, Dan-Yang Zhang, Yan Wang

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Abstract

This letter to the editor relates to the study entitled "Non-invasive model for predicting high-risk esophageal varices based on liver and spleen stiffness". Acute bleeding caused by esophageal varices is a life-threatening complication in patients with liver cirrhosis. Due to the discomfort, contraindications, and associated complications of upper gastrointestinal endoscopy screening, it is crucial to identify an imaging-based non-invasive model for predicting high-risk esophageal varices in patients with cirrhosis.

Key Words: Cirrhosis; High-risk esophageal varices; Non-invasive prediction model; Spleen stiffness measurement; Liver stiffness measurement; Upper gastrointestinal endoscopy

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Core Tip: Liver cirrhosis is the end of chronic liver disease. Rupture of esophageal varices (EVs) is a common and potentially fatal complication in patients with cirrhosis. In clinical practice, prophylactic treatment is primarily used to prevent events of esophageal venous bleeding, however, this strategy requires invasive and expensive upper gastrointestinal endoscopy testing, leading to poor patient adherence. In recent years, several studies have demonstrated an association between EVs and liver stiffness measurement (LSM) as well as spleen stiffness measurement (SSM). The main objectives of this paper are to elucidate the differences between EVs, SSM, and LSM and explore the feasibility of using LSM and SSM to develop a non-invasive model for predicting high-risk esophageal varices.

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TO THE EDITOR

We read with interest the retrospective study by Yang *et al*[1], which is titled "Non-invasive model for predicting high-risk esophageal varices based on liver and spleen stiffness". The results of this study highlight the potential use of liver stiffness measurement (LSM) and spleen stiffness measurement (SSM) for predicting high-risk esophageal varices (HEVs) in patients with cirrhosis.

Portal hypertension (PH) is a common and significant complication in patients with cirrhosis, leading to esophageal varices (EVs)[2]. Hepatic venous pressure gradient and upper gastrointestinal endoscopy (UGE) are considered the gold standard for assessing the severity of PH and the risk of EV bleeding. However, due to their invasiveness, discomfort, and high cost, it is crucial to identify non-invasive markers for screening HEVs in cirrhotic patients[3,4]. In recent years, LSM and SSM using transient elastography (TE), acoustic radiation force impulse elastography, two-dimensional shear wave elastography, and magnetic resonance elastography have been proven to be accurate diagnostic tools for evaluating chronic liver disease with liver fibrosis as well as predicting the presence or absence of HEVs[5].

We want to emphasize a few points about this study: In this study, the authors used Baveno VI as a comparator but did not include the more comprehensive Baveno VII as a comparator[6]. At the same time, the authors did not distinguish between the M and XL models of the FibroScan probe when measuring LSM and SSM, which may have an impact on the comprehensiveness and accuracy of the results[7]. Second, patients with current/past clinical cirrhosis were included in this study, but the proportion of patients with decompensated cirrhosis in this cohort is unclear, since the non-invasive measures used here were primarily used for endoscopic triage of patients with compensated cirrhosis. No guidelines recommend its use in patients with clinical decompensation, for whom screening by UGE is recommended. Additionally, while all subjects included in this study had viral hepatitis cirrhosis, they did not consider the possible effect of antiviral treatment on TE measurements. Furthermore, the effect of alcoholic and nonalcoholic steatohepatitis on cirrhosis has been underrepresented, which may limit the external validity of our findings across diverse populations and settings. To enhance the reliability of the conclusions of this study, we recommend a study with a larger sample size, especially in patients with nonalcoholic steatohepatitis and alcohol-induced cirrhosis, to verify the validity of the model in patients with different types of cirrhosis. Such a study would help improve the convenience and operability of clinical practice and more accurately assess the condition of patients.

The highlight of this study is that all enrolled patients completed UGE testing. Additionally, when SSM is unavailable or unsuccessful, the Baveno VI criterion can be used as a reasonable alternative according to Yang *et al*[1] Moreover, a screening strategy based on LSM and SSM could reduce the workload of endoscopy and optimize the use of health care resources while minimizing risk and patient discomfort. In summary, we acknowledge the efforts and contributions made by the authors. Furthermore, we recommend further prospective validation to facilitate future research on this topic.

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FOOTNOTES

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