

Dear editor:

Thank you for your suggestions and comments. These comments are very useful for us. Now I will respond to the reviewers' comments one by one.

Reviewer 00070537

Question 1: Several key words are too general, and It needs to add PMID and ROI to the references .

Answer: The comment is pertinent and constructive, we have change the key words and add the PMID and DOI to the references.

Question 2: You should discuss the difference of the liver and spleen volume in viral cirrhosis patients and alcohol cirrhosis patients, and if there is difference between the effect on the liver volume of hepatitis B and Hepatitis C.

Answer: Although there are many causes of cirrhosis, but in Asia, especially in China, viral hepatitis is still the main cause, which is different from alcoholic cirrhosis in western countries. This is also our original intention to select patients with viral cirrhosis as the research objects. There are many differences between viral cirrhosis and alcoholic cirrhosis in the course of disease progression, especially the morphological changes of liver. In patients with viral cirrhosis, the liver gradually shrinks and the spleen increases. Instead, the liver is gradually enlarged as well as

the spleen due to hepatocyte steatosis in patients with alcoholic cirrhosis. For these reasons, our non-invasive model is only applicable to viral cirrhosis. We are now in the process of establishing another non-invasive predictive model for patients with alcoholic cirrhosis. Our point was proved in many studies, such as follows:

1. Liu P, Li P, He W. Liver and spleen volume variation patients with hepatic fibrosis [J]. World J Gastroenterol, 2009, 15(26): 3298-3302.
2. Zhou XP, Lu T, Wei YG. Liver volume variation in patients with virus-induced cirrhosis; finding on MDCT [J]. AJR, 2007, 189(3): W153-159.

Reviewer 02575643

Question 1: This is a retrospective study, you should apply the mathematical model prospectively to another group of patients to confirm that their model.

Answer: This was really a retrospective study, in order to build a new non-invasive prediction model for predicting high-risk esophageal varices. Prospective study was indeed more reliable than retrospective study, but retrospective study in the building of new models was more common and effective. In order to evaluate the new model, another 50 patients who met the inclusion criteria were selected randomly, and the collection of

CT data, gastroscopy operation and results evaluation were all finished by independent researchers to ensure the objectivity and accuracy of the results. Indeed, we should further increase the number of cases for confirming the new model..

Question 2: You should define if the patients suffered from chronic or acute forms of hepatitis and include them in the analysis, and the different infection time may affect the liver and spleen volume

Answer: In fact, different infection time indeed will affect the liver and spleen volume in virus cirrhosis patients, the liver function is also different. All the patients enrolled in this study were cirrhosis after chronic hepatitis B or hepatitis C, and we add the course of disease in Table 1 and Table 2, but there was no difference in HEVs group and LEVs group.

Reviewer 03670885

Question 1: You should write “in Chinese population” at the end of the article title.

Answer: This is also a pertinent suggestion, and we have add “ in Chinese population” in the title.

Reviewer 03262657

Question 1: The upper endoscopy is a more available diagnostic tool for gastro-hepatologist than CT scan and MR.

Answer: We also agree with that very much. But the pain of gastroscopy

is well known, especially in northwest China, where the prevalence of painless gastroscopy is relatively low. So it is very meaningful to establish a non-invasive model can be used to predict HEVs. On the other hand, CT or MR scan is a routine screening program for patients with liver cirrhosis, so it will not increase the financial burden of patients.

Question 2: The small number of cases has limited the statistical power for the validity of the prediction model.

Answer: Indeed, the number of the patients in this study is not so big, but we verified the discriminating ability, calibration ability and clinical efficacy of the model established using the data of the 86 patients, the result is satisfactory.

Question 3: The inclusion criteria for the participants are not clear: what grade of cirrhosis was necessary for inclusion? How much time before inclusion in the study the patients were diagnosed with liver cirrhosis?

Answer: As we said in the inclusion criteria, the cirrhosis patients with EVs were enrolled in the study, but the patients with a history of bleeding from the esophagus and receiving endoscopic or surgical treatment were excluded. And we have add the course of disease in Table 1 and Table 2.

Question 4: Several confounding factors have to use in multivariate analyses.

Answer: Indeed, obesity, diabetes, cancer, osteoporosis, pulmonary, renal and cardiovascular diseases and other factors can contribute to the

decompensation of cirrhosis, this was proved in many articles. According to the literature, there are no animal experiments or clinical studies on the effects of these factors on the volume of liver and spleen in patients or animals with cirrhosis, so we do not choose them as the confounding factors. This may be another interesting research, reminding us that we can carry out further research in this field.

When we set the inclusion criterion, we exclude patients with a history of bleeding from the esophagus and receiving endoscopic or surgical treatments. And because only two patients have a history of taking beta-blockers, so we do not select it as the confounding factor.