

Feb 6th,2014

Dear Editor,



Please find enclosed the edited manuscript in Word format (file name: **ESPS Manuscript 7906-Review.doc** ).

**Title: A new index to predict esophageal variceal bleeding in cirrhotic patients**

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**Name of Journal:** *World Journal of Gastroenterology*

**ESPS Manuscript NO:** 7906

The manuscript has been improved according to the suggestions of reviewers:

***Major comments:***

1 The necessary instructions have been added to the article.

A total of 486 consecutive decompensated cirrhotic patients were included in this study (238 males and the rest 248 patients are female). According to exclusion criteria, 70 of these patients were excluded from this trial during follow up (43 patients declined to have Doppler US or MELD evaluation during the first 3 months follow up, 12 patients taken forbidden medicines frequently such as proton pump inhibitor, propranolol or antivirals, 8 patients had a splenectomy and 7 patients undergone endoscopic treatments after enrolment).

Finally, 416 patients fulfilled a period of 31.6 months follow-up, 51 patients (27 males and 24 females) experienced EVB, and 365 patients (201 males and 164 females) did not.

2 We added "248 females" in the patients section.

3 We agree with the reviewer that the necessary instructions have been added to the article.

Before the independent t-test, a normality test was performed for continuous data by using SPSS software, and a normal distribution of any of these data was shown using the normality test. And we added the information in the results section.

**4 Multivariate logistic regression analysis with forward stepwise selection of the variables was used to identify the variables significantly correlated with the risk of EVB.  $\Delta$ MELD, LGVV and LGVBFD were independently associated with the occurrence of EVB ( $P < 0.05$ ), the coefficients of these 3 independent variables selected by means of the stepwise procedure are 1.667, 2.096 and -3.245 (Table 2). All of the variables selected by means of the stepwise method are significantly related to EVB. However, the relative importance of each variable included**

in the model can be estimated on the basis of the ratio between the variable coefficient and its standard error. According to the logistic regression formula, Logit (P) , a prognostic index ,that estimated the individual risk of bleeding ,was calculated:

$$\text{Ln}(\text{odds})=\text{logit}(P)=\beta_0+\beta_1X_1+\beta_2X_2+\dots+\beta_kX_k+\varepsilon$$

( $\beta_1=1.667$ ,  $\beta_2=2.096$ ,  $\beta_3=-3.245$ ,  $\varepsilon=-1.697$ ). Then we can get the following formula:

$$\text{Logit (P) } =1.667*\Delta\text{MELD}+2.096*\text{LGVV}-3.245*\text{LGV BFD}-1.697.$$

P defined as the occurrence probability of EVB, we also can formulate P:

$$P = \frac{e^{1.667*\Delta\text{MELD}+2.096*\text{LGVV}-3.245*\text{LGV BFD}-1.697}}{1 + e^{1.667*\Delta\text{MELD}+2.096*\text{LGVV}-3.245*\text{LGV BFD}-1.697}}$$

5 Thank you very much for a very constructive opinion. In fact, we have been doing this work. From the current limited experience, the predictive ability of the formula to predict EVB for patients with compensated cirrhosis is not satisfactory .We found that there was no significant difference between the two groups for  $\Delta\text{MELD}$  (the change in the MELD score over a period of 3 months ). But this experience just based on a small number of patients,and the term of follow up was not long enough .Further research is needed.

***Minor comments:***

- 1 Measurement units for diameter of SV, blood flow, velocity have been added according to the suggestions of the reviewer
- 2 AUC stands for area under the ROC curve,and has been added to the article according to the suggestions of the reviewer

Thank you again for publishing our manuscript in the *World Journal of Gastroenterology*.

Sincerely yours,

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