

Non-invasive Screening of Esophageal Varices in Patients with Liver Cirrhosis

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INTRODUCTION

Given the invasiveness of the Esophago-Gastro-Duodenoscopy (EGD), non-tolerability, and cost, non-invasive evaluation of the patients with compensated cirrhosis is warranted. The last Baveno VI consensus has reported that compensated cirrhotic patients who have platelets count $> 150,000/\text{mm}^3$ and liver stiffness measurement (LSM < 20 KPs) are less likely to have high-risk varices (HRVs) and can safely avoid screening EGD [1]. Other blood tests were investigated for the same purpose. Our group has assigned a new blood based score including the platelet count, serum albumin and bilirubin levels (ALBL-PLT). It was showed that ALBL-PLT score of more than three has a good predictive value in predicting HRVs among compensated cirrhotic patients. The sensitivity of the ALBL-PLT score in predicting HRVs is 100%, specificity of 78%, positive predictive value (PPV) is 80% and a negative predictive (NPV) value of 100% and AUC is 0.894. By applying this score, 84 (41.1%) patients can avoid EGD with none of them had HRVs on endoscopy [2]. In a similar cohort of patients, it was proved the beneficial effect of the ALBL-PLT score in predicting HRVs among cirrhotic patients [3]. However, most of the results of the non-invasive tests are modest and not satisfactory to replace EGD screening.

A new study in this issue of the Afro-Egyptian journal of infectious and endemic diseases investigated the use of the PAPAS score (Platelet/Age/Phosphatase/AFP/AST) for predicting

EVs in HCV-related cirrhotic patients. This study included patients at different stages of cirrhosis (compensated and decompensated) who underwent screening EGD to detect the presence of EVs. The PAPAS score and other non-invasive scores (APRI, FIB4, Lok Scor) were calculated and compared their accuracy in predicting the development of EVs. The results of this study showed that patients with EVs have a significantly higher PAPAS score than those without EVs. The PAPAS index showed higher diagnostic accuracy than the other tests (APRI, FIB-4, and Lok Score). PAPAS index AUCs were 0.939 for diagnosis of EVs with 86% sensitivity, 93.33% specificity, 95.2% PPV, 73.7% NPV, and AUC 0.746 for detecting Large EVs with 94.87% sensitivity, 86.43% specificity, 71.2% PPV, 86.7% NPV, indicating its usefulness in identifying patients with large varices who require endoscopy.

This is the first study that showed promising benefits of applying the PAPAS score among cirrhotic patients secondary to chronic HCV. However, several concerns in this study need to be raised, first; this study included decompensated cirrhotic patients, while non-invasive tests target those with compensated cirrhosis to determine who are at high risk to undergo screening endoscopy and save those who are at low risk, the decompensated patients always have HRVs and the results of this study showed that 100% of decompensated cirrhotic patients have HRVs. Second; this study defined the HRVs as varices with red signs only, but the

AASLD has accurately defined the HRVs as large or moderate sized varices and small sized varices with red signs or in patients with decompensated cirrhosis [1]. Third; this study showed that no significant difference in the platelet count among patients with small and large EVs, this is surprising, because the different non-invasive scores included the platelets count as an important indicator of portal hypertension and high risk varices (HRVs) [4-6]. Another important point in this study, the PAPAS score was originally described in those with chronic HBV to evaluate the fibrosis state. This is the first study for its evaluation in HCV after *Ozel, et al.; 2015* who reported that PAPAS score was not superior to other score in prediction of fibrosis among patients with chronic hepatitis C [7].

In conclusion, this study introduced a new noninvasive score that may be –hopefully– helpful for the early prediction of HRVs, but the several concerns raised in this study need to be reevaluated in future researches.

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