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Cardiac changes and liver disease

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To the editor:

In their recent study, Prof. Silvestre, *et al.*[1] concluded that there is definite relation of changes of cardiac structure and function to the severity of end-stage liver disease. However, there is an uncertainty in interpreting the results of this study.

It is well known that the cardiac structure and function measured by echocardiography could be affected by many factors, for example, age, gender, BMI etc. In the study by Prof. Silvestre, *et al.*,[1] although many parameters such as left atrial diameter and systolic pulmonary artery pressure were significantly different between more-severe liver disease (MELD > 16) and no-severe liver disease (MELD < 16), the differences of factors which could affect cardiac structure and function for example, age, gender, BMI, etc., were not described. Are there significant differences of factors which could affect cardiac structure and function between more-severe liver disease (MELD > 16) and no-severe liver disease (MELD < 16)? If yes, are there any relations of the differences to the results of the study by Prof. Silvestre, *et al.*[1]?

REFERENCE

1. Silvestre OM, Bacal F, Ramos DS, Andrade JL, Furtado M, Pugliese V, Belleti E, et al. Impact of the severity of end-stage liver disease in cardiac structure and function. *Ann Hepatol* 2013; 12: 85-91.

Author's replay:

We thank Dr Song, *et al.*, for the comments: it is certainly of relevance that changes in cardiac structure and function may be related not only to the severity of end-stage liver disease (ESLD) but also to other factors such as age, sex, and obesity. It would be of interest to know whether these factors could have influenced our results. As shown in table 1 of our paper, we included a group of 184 patients, with male predominance (66%), mean age of 54 years and mean BMI of 26.8 kg/m^2 (34.8% of them with ascites, which overestimates BMI). These are common features of patients with ESLD. A significant proportion of elderly or obese patients is not expected to be found among patients waiting for liver transplantation. This is because those patients rarely are referred for transplantation and because cirrhosis is associated with significant loss of weight and cachexia, thus, precluding a comparison of patients with factors other than the severity of the ESLD. Overall, our conclusions remain unchanged: in non-obese, non-elderly patients, changes in cardiac structure and function correlate with the severity of ELSD. However, we acknowledge that further work is required to clarify the influence of other factors not related to the liver.

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