

## Reply to: “Effect of albumin on survival in septic cirrhotic patients other than spontaneous bacterial peritonitis. The question remains open”

*To the Editor:*

We would like to thank Dr. Thevenot *et al.* for their interest in our study on the effect of albumin administration in patients with cirrhosis and infections other than spontaneous bacterial peritonitis [1]. Our answers to their comments are as follows: (1) the statistical difference between the per-protocol analysis and intention-to-treat analysis is minimal, as indicated by their corresponding hazard ratios (0.29 and 0.35, respectively) and *p* values (0.042 and 0.06), despite the fact that the latter falls outside the level of significance. Therefore, no relevant conclusions can be made with respect to this slight difference; (2) the statement that progressive kidney failure occurs only in subdiaphragmatic infections is not in agreement with our experience. We agree with the authors of the letter that it would have been important to include patients without SBP with high risk of kidney failure; however, this information was not available when we started the study and is still insufficient today; (3) we agree that our assumption of a beneficial effect of albumin was over-optimistic, but our results indicate that any study aimed at investigating the effects of albumin in this patient population must include a very large sample size; (4) as indicated in the statistical section of our paper, the purpose of the multivariate model was not to select the best subset of variables predicting survival, but to assess the effect of treatment with albumin after adjusting for potential confounders in an explanatory model. The 1:10 rule is a good one when the statistical significance of variables to be included in the model is relevant. In our case, the main interest was to estimate the risk reduction associated with the albumin treatment in the most accurate way. Assessment of potential confounders is based on the magnitude of changes in the treatment coefficient and not on the statistical significance of confounders; (5) the beneficial effect of albumin on systemic hemodynamics was crystal clear and is consistent with the effects of albumin observed on systemic hemodynamics in patients with SBP [2,3]. The effect of albumin treatment on the activity of vasoconstrictor systems

was analyzed in almost half of the patients included, which is a high percentage considering the logistical difficulties in studies involving these types of patients. Finally, we believe that our study has set the stage for investigating the effects of albumin in patients with cirrhosis and sepsis (without SBP) and we are confident that more randomized studies will be performed in this important field. The results of these studies are eagerly awaited.

### Conflict of interest

The authors declared that they do not have anything to disclose regarding funding or conflict of interest with respect to this manuscript.

### References

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