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Letter to the Editor

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Benefits of beta-blockers for patients with cirrhosis and infection: do not celebrate too soon!

To the Editor:

We read with interest the recent study by Merli *et al.* (1). Much controversy has raged over recent years regarding the safety of BBs in patients with cirrhosis (2). In the article, PPIs were associated with increased risk of infection among cirrhotic hospitalized patients while BBs were related to lower infection rates and severity (1). Although this study is of unquestionable relevance, we believe that a few issues should be addressed to better clarify their findings.

First, it is not clear which complications were present at admission. Although the authors mentioned that the prevalence of gastrointestinal bleeding was similar between those with and without infection, it is not clear if the proportion of patients with gastrointestinal bleeding was similar between those using or not BBs. This is important because patients with variceal bleeding are usually treated with prophylactic antibiotics, which has been shown to dramatically decrease infection rates (3). In addition, recent data, suggest that variceal bleeding has a better prognosis as compared to other reasons for hospital admission (4, 5). Hence, it is possible that, at least in part, the lower infection rates and better prognosis of patients receiving BBs in Merli *et al.* study could be explained by a higher proportion of patients admitted for variceal bleeding among those using BBs.

>Finally, the authors stated that the patients taking BBs who had a diagnosis of infection had a lower risk of a systemic impairment, hepatorenal syndrome and mortality. However, in table 2, there are no statistical differences between BBs users and non-users for none of these parameters. Although there are numerical differences in some of the comparisons, the relatively lower number of patients with these specific complications prevents such firm conclusions. In addition, the lower rate of sepsis among BBs users could be easily explained by the lower rate of infection in this group, instead of a truly beneficial effect of BBs. This is probably the case because the rate of sepsis development in patients with infection was similar between BBs users and non-users.

In conclusion, although this study indicates that BBs might be associated with lower rates of bacterial infections, some questions must be elucidated to define whether this is a truly BBs effect or not. In addition, taking into account the information provided in the article, there is no data to support any beneficial effect of BBs in patients with cirrhosis and infection.

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