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# Letter to the Editor

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## Beta-blockers in patients with cirrhosis and infections: don't blame too soon!

To the Editor:

We thank Drs Schiavon Narciso-Schiavon for their interest in our study, allowing us to better clarify some of our findings (1). We performed a cross-sectional study in a large prospectively cohort of hospitalized cirrhotics. The primary aim was to identify the possible correlation between medications, widely prescribed in cirrhotics, and infections. We found that PPI-users had a higher rate and BBs-users a lower rate of infections. The lower infection rate and better prognosis of BB-users can not be attributed, as suggested by Schiavon *et al.*, to a higher proportion of variceal bleeding in this group; in fact, the large majority of patients hospitalized for bleeding were excluded from the study as they came to our ward already on systemic antibiotic treatment (which is usually started in the emergency room) and this would have represented a confounding factor. Only few patients with variceal bleeding were included: they developed bleeding after enrolment and were equally distributed between those taking and not taking BBs.

Following the recent debate about the 'therapeutic window' of BBs in cirrhotic patients (2–4), we were also interested in evaluating possible harmful effects of BBs in cirrhotic patients with infections. This was a secondary aim of our study and we certainly recognize that the study was underpowered for this purpose. From our series, 140 patients had an infection; of them 37 were BB-users and 103 not-users. Unexpectedly, patients on BBs showed a trend towards a lower incidence of sepsis (40 vs 57%), septic shock (8 vs 15%), hepatorenal syndrome (14 vs 17%) and mortality (15 vs 40%) vs not-users. Because of the limited sample size, these differences were not statistically significant; however, we believed that these data could be of interest also to promote larger studies. Furthermore, questioning the hypothesis of an impairment of the haemodynamic response by BBs during acute events, these patients were able to increase the heart rate during the septic episode, though to a lesser degree than those not on BBs. If our results are confirmed, this will be argued against the suggestion to suspend BBs in patients with infections (5).

In conclusion, our study indicates that BBs are associated with a lower rate of bacterial infections in patients with cirrhosis. Moreover, we showed a trend towards a beneficial effect of BBs in patients with cirrhosis who develop infections.

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