



Letter to the Editor

Predictors of mortality of bloodstream infections among internal medicine patients: Mind the complexity of the septic population! Authors' reply



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Sir,

We would like to thank Dr. Tosoni and his colleagues for commenting on our recent article and we appreciate this opportunity to further clarify our work [1]. We fully agree that Internal Medicine patients are complex and discrepancies may be observed among studies given that most of them were conducted in University Hospitals where the degree of complexity of hospitalized patients was even higher [2,3].

One of the most important predictors of survival is the appropriate empirical antibiotic therapy. The percentage of bloodstream infections due to multidrug-resistant pathogens in our cohort was low (10.1%), accounting for a high percentage of appropriate empirical antibiotic treatment (91.5%) [4]. Such observations are not expected in countries with higher resistance rates, as in the case of Mediterranean ones, where carbapenemase-producing gram-negative bacteria and methicillin-resistant *Staphylococcus aureus* are endemic and the therapeutic options limited [4,5]. The condition of a non-septic patient receiving inappropriate empirical treatment may deteriorate during hospitalization. If qSOFA or other scores are calculated upon presentation in the Emergency Department (ED), they might not be indicative of the patient's eventual poor outcome which will not be due to the severity of the infection but rather due to incorrect antibiotic therapy. Thus, measurement of qSOFA upon presentation in the ED compared to its worst values during hospitalization, constitutes an inferior predictor of mortality [3]. In our cohort, the worst values within the first 3 h of the patient's ED stay was used to calculate qSOFA, therefore accounting for the better performance of qSOFA in comparison with other studies [2,3,6].

Since its proposition, qSOFA has shown conflicting results depending on the overall mortality of the studied group, disease severity and suspected versus confirmed infection [3]. It is an undeniable fact that owing to sepsis complexity and heterogeneity, neither qSOFA nor other clinical scores could serve as accurate diagnostic tools in predicting mortality [3]. The Third International Consensus Definitions for Sepsis and Septic Shock did not introduce qSOFA as an excellent score, but a rapid and simple one (based on few clinical variables and not on

laboratory results) with a good predictive value that could be used on the patient's bedside [7].

Further studies are needed in order to clarify the performance of qSOFA and other scores in different types of infections and populations.

Declaration of Competing Interest

None.

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