Adequate Management of Nosocomial Candidemia in Very Old Patients

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Dear Editor,

We read with interest the Letter by Bal [1] commenting our recent study on clinical features and mortality of nosocomial candidemia in very old patients in Northeast Italy [2]. We also found that several very elderly patients had few referrals for echocardiogram and ophthalmoscopy investigations in our series, but the retrospective, multicenter design of our study did not allow for obtaining sound data on this issue.

Bal raises 2 main points of discussion about our study. The first one concerns the duration of antifungal therapy. In the post hoc analysis of our multicenter dataset, we considered the therapy adequate on the basis of the most recent guidelines on the subject, the 2016 IDSA guidelines [3]. Nevertheless, due to the retrospective design of the study, we obtained data regarding the first negative blood culture for *Candida* only in 276 of total 683 candidemia cases. Consequently, we could have defined the adequacy of antifungal therapy based on antifungal duration after the candidemia's clearance only for one-third of the study population. For this reason, we defined adequate therapy depending on drug susceptibility, dosage, and early administration of antifungal agents.

The second point concerns the timing removal of the CVC. In our study, we reported that CVC removal oc-

curred more often in subjects aged <75 years than in older ones: 237/296 (80%) versus 119/176 (67.6%), $p = 0.002$. Bal suggests that comparing the management of candidemia in the 2 age-groups in relation to timely removal of CVC would provide a better understanding in relation to the drawbacks, if any, in the management of candida bloodstream infection in the very old population. We agree with this but, unfortunately, due to the retrospective nature of the dataset, we have too little data about the number of days between the first positive blood culture for *Candida* and the removal of the CVC to perform a reliable statistical analysis. However, our results clearly show that adequate antifungal therapy and CVC removal together occurred much more frequently in younger patients than in very old ones (64.5 vs. 47.6%, $p = 0.005$).

In a recent article, Bal and Palchaudhuri [4] compared the management of candidemia in adult, old, and very old patients using the European Confederation of Medical Mycology (ECMM) Quality (EQUAL) score. The EQUAL Candida Score weighs and aggregates factors recommended for the ideal management of candidemia, in term of diagnosis, treatment, and follow-up. In this study, the mean score was significantly lower in the old and very old patients than the subjects in the younger age-group ($p < 0.01$). We believe that given the complexity of the man-

agement and the high mortality of this infection, it could be suitable to use such a score that takes into consideration all the key factors for the correct management of this fungal disease.

Several other studies highlight certain shortcomings in the management of candidemia in old and very old patients [5–7]. Indeed, the frailty of this patient population entails the complexity of treatment of this severe fungal infection. However, underlining these drawbacks is the first fundamental step in drawing attention to this topic and improving the management of such infection.

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Author Contributions

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