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CORRESPONDENCE

Decontamination regimens: do not forget half of the protocol. Author's reply

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We thank our colleagues for their critical comments, which give us the opportunity to point out the study methods in some more details [1, 2]. First, it is correct that the resistance rates of some multi-drug resistant bacteria (MDRB) differed between groups with and without selective oral decontamination (SOD) already at admission (first 48 h). Importantly, these findings were excluded from the analysis. The objective of the study was to specifically investigate the emergence of MDRB due to selection pressure of SOD in the intensive care unit (ICU). Second, the incidence densities in MDRB are reported as we found them. Clinically important differences in patient characteristics (medical or surgical admission, transplantation, Table 1 in [1]) are not taken into account since the effectiveness of SOD is not modified by the type of ICU admission [3]. Third, the outcome analysis on health care infections and in-hospital death, however, was done after propensity score analysis which was based on seven clinically important variables (Table 2 in [1]). This gave us the opportunity to compare two well balanced groups, especially with respect to type of admission, severity of illness, duration of ventilation and length of stay in the ICU. The effect of propensity score matching on hospital death rate is illustrated in Table 7 of our publication [1]. Of note, the death rates found in the groups after propensity score matching were very similar to those in recent clinical trials [1, 4, 5]. Fourth, we believe that the inclusion of length of stay in the propensity score analysis is a strength of our study, as it generates two homogeneous groups with respect to length of exposure at risk between these groups. From this point of view, it is also justified to compare incidence rates of these two groups. Fifth, as detailed in the methods the protocols for infection control were investigated in all participating ICUs according to guidelines given by a national group of experts of the Robert-Koch-Institut in Berlin, Germany. Quality assurance measures showed strict adherence to recommendations in all ICUs included in our analysis.

The strength of our observational study is the analysis of real-world data over a long period of time without changing the SOD intervention. This differs from recent clinical trials that used cross-over designs [4, 5]. In particular, the 143.842 microbiological tests we evaluated represent a large dataset. We acknowledge that meta-analyses suggest that the full selective digestive decontamination (SDD) regimen including a 4-days course of prophylactic systemic antibiotics may be slightly more effective than SOD alone [3, 6]. In our original controlled trial, we also administered prophylactic intravenous antibiotics [7]. However, in terms of antibiotic stewardship, we find it problematic to argue against overuse of antibiotics as prolonged prophylaxis after complex surgical procedures, and then to implement routine 4-days antibiotic prophylaxis for ventilated patients. So we have not forgotten half of the protocol. Rather, we try to find an appropriate balance between the benefits and risks of antibiotic prophylaxis and feel reassured by the data we have presented in our publication [1].

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Declarations

Conflict of interest
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