A557 - Factors associated with no de-escalation of empirical antimicrobial therapy in icu settings with high rate of multi-drug resistant bacteria

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Introduction:
De-escalation is recommended in the management of antimicrobial therapy in ICU patients [1]. However, this strategy has not been adequately evaluated in the presence of increased prevalence of multidrug-resistant (MDR) bacteria. The aim of this study was to identify factors associated with no de-escalation in ICUs with high rate of MDR bacteria [2].

Methods:
Prospective, multicenter study conducted in 12 Greek ICUs over a 1-year period. Patients with laboratory confirmed infections were included. SOFA score on admission, on septic episode and thereafter every 24 h over 14 days, infection site(s), culture results, antimicrobial therapy, and mortality were recorded. Only the first septic episode was analyzed. In order to assess the factors associated with no de-escalation, a multivariate analysis was performed.

Results:
A total of 211 patients (admission SOFA score 10±3) were analyzed. 43% of those had septic episode on ICU admission; 57% patients had an ICU-acquired. De-escalation was applied to 44 (21%) patients whereas it was not feasible in 75 patients (44%) due to the recovery of MDR pathogens or it was not applied, although the microbiology results allowed it, in 92 patients (56%). Septic shock on the day of septic episode was present in 67% and 79% of patients with and without de-escalation, respectively, (p=0.072). Compared to no de-escalation, de-escalation strategy was associated with a shorter duration of shock (4±5 vs. 9±7 days, p<0.001) and all-cause mortality (15.4% vs. 46.4%, p<0.001). Multivariate analysis showed that the variables associated with no de-escalation were: a deteriorating clinical course as indicated by an increasing SOFA score (OR 14.7, p<0.001) and a lack of de-escalation possibility due to recovery of MDR pathogens (OR 27.3, p=0.008).

Conclusion:
Deteriorating clinical course and MDR pathogens are independently associated with no de-escalation strategy in critically ill patients.

References: