A516 - Ceftazidim/avibactam on oxa-23 A. baumannii ventilator associated pneumonia – does it make any sense?

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Introduction:
Ventilator-associated pneumonia (VAP) is one of the most frequent healthcare-associated infections, correlated with increased mortality, extended hospital stay and prolonged mechanical ventilation. Considering the latest outbreak of multiresistant A. baumannii infections in the critically ill patients with VAP, there is a growing concern regarding challenges of the antibiotherapy in these patients. Although ceftazidim-avibactam is considered to have limited effects on A. baumannii, it is reported to have a synergic activity in combination with other antibiotics.

Methods:
We performed a retrospective, observational study which included 24 ICU patients diagnosed with VAP (CPIS > 6). OXA 23 A. baumannii was isolated from the tracheal secretions using a rapid molecular diagnostic platform (Unyvero A50 System). Patients were divided in two groups according to the antibiotherapy: group A Meropenem + Colistin and group B Meropenem + Colistin + Ceftazidim-avibactam. Statistical analysis was performed using GraphPad6 applying T-test and Kaplan-Meier curves, having the in-hospital mortality as primary outcome and days of mechanical ventilation and hospital stay as secondary outcomes.

Results:
Mean age (y.o) in group A was 46 and 52 in group B and in both groups mean Charlson comorbidity index was 3 points. Survival percent was higher in the group treated with Ceftazidim-avibactam (67% vs 57%, p = 0.08) (Figure 1). Length of stay was significantly decreased in group B (26.5 days vs 43 days in group A, p = 0.046). Number of days under mechanical ventilation was also decreased in the ceftazidim-avibactam group (19 vs 22) but the data was not statistically significant.

Conclusion:
In light of the important thread of multiresistant A. baumannii and the lack of therapeutic measures, the synergistic activity of Ceftazidim-avibactam use in combination with other antibiotics may be a promising approach to lower the mortality and hospitalization in critically ill patients diagnosed with VAP.

Image:

Survival proportions: Survival of Two groups