Aerosolized colistin is an effective adjunct to systemic antibiotics in ventilator-associated pneumonia

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Introduction:
The aim of the study was to assess the effectiveness of inhaled colistin (IC) as an adjunct to systemic antibiotics in the treatment of ventilator-associated pneumonia (VAP).

Methods:
110 ICU patients with VAP were enrolled in this observational study. Resolution of VAP was assessed as primary endpoint; eradication of pathogens in sputum, weaning time, duration of ICU stay and mortality were assessed as secondary outcomes. Patients were split into 2 groups: Gr.1 (n = 60) - addition of IC to systemic antibiotics without changing the basic regimen; Gr. 2 (n = 50) - change in systemic antibiotics according to sensitivity. Groups were comparable. IC was administered in a dose of 2 million IU TID (Xselia Pharmaceuticals ApS, Denmark). Statistical analysis was performed using Statistica 7.0 (M, σ, Newman-Keuls test; p <0.05).

Results:
VAP resolution rate was 77% in Gr.1 (vs. 50% in Gr. 2, p = 0.0295); eradication of pathogens from sputum by the 7th day. treatment was achieved in 80% of Gr. 1 and 60% in the Gr. 2 (n = 12) (p> 0.05); in Gr. 1 weaning from ventilation was possible earlier than in Gr. 2 - 7.8±1.3 days. in Gr. 1 vs. 10.9±4.5 days. in Gr. 2 (p = 0.0000); in Gr. 1 duration of ICU stay was shorter than in Gr. 2 - 11.5±3.2 days vs. 17.1±2.3 days. in Gr. 2 (p = 0.0000). No mortality differences were detected.

Conclusion:
Administration of inhaled colistin 2 million IU TID is effective as an adjunct to systemic antibiotics in the treatment of VAP. This modified treatment promotes a more rapid resolution of VAP, earlier weaning from ventilator, reduction of the duration of ICU stay, with no impact on mortality. The addition of IC to systemic antibiotics should be considered as second-line regimen in VAP patients.