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ePoster Viewing

Clinical ID: antimicrobial clinical trials

[Inhaled antibiotics beyond aminoglycosides, polymyxins and aztreonam: a systematic review](#)

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Objectives We sought to evaluate published evidence regarding clinical or microbiological outcomes related to the use of inhaled antibiotics other than aminoglycosides, polymyxins and aztreonam.

Methods A systematic search of PubMed and Scopus databases and of bibliographies of eligible articles was performed.

Results Thirty four eligible studies were identified. Among several inhaled β lactams, prophylaxis with ceftazidime reduced the frequency of ventilator-associated pneumonia (VAP) by 7-40% compared to placebo. Ceftazidime was also used in the treatment of VAP (70-96% success rate) and improved clinical outcomes in chronic *P. aeruginosa* lower respiratory tract infections (LRTI) in patients with cystic fibrosis (CF) or bronchiectasis. Inhaled vancomycin, as an adjunctive therapy, was effective in treating Gram positive VAP. Additionally, inhaled levofloxacin, ciprofloxacin and an inhaled combination of fosfomycin and tobramycin were associated with improved clinical outcomes in chronic LRTI in patients with CF or bronchiectasis and reduced *P.aeruginosa* density in bronchial secretions by 0.73, 3.62-4.2 and 0.37 \log_{10} cfu/ml respectively.

Conclusion Published evidence is heterogeneous with regard to antibiotics used, studied indications, patient populations and study designs. Therefore, although the currently available data is encouraging, no safe conclusion regarding effectiveness and safety of the drugs in question can be reached.