

POSTER PRESENTATION

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Inhaled ceftazidime and amikacin versus inhaled colistin in the treatment of gram negative ventilator associated pneumonia

YS Nassar*, M Ibrahim, AG Salman, TS Elgohary

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Introduction

Aerosol antibiotics administration offers the theoretical advantages of achieving high drug concentrations at the infection site and low systemic absorption.

Objectives

Comparing the microbiological outcome of inhaled ceftazidime amikacin versus inhaled colistin as adjunctives to conventional iv antibiotics in treating gram negative VAP.

Methods

This prospective randomized controlled study was carried out on 60 mechanically ventilated patients with gram negative VAP.

Inclusion criteria: Adult mechanically ventilated patients diagnosed to have Gram negative VAP confirmed: Radiologically (new chest x- ray infiltrate).

- Microbiologically (positive culture from aspirate of endo- tracheal tube (ETT).
- Clinically (fever, leukocytosis and increased bronchial secretion). CPIS scoring >6.

Exclusion criteria: · Severe renal impairment,

The patients included in the study were equally randomized to enter one of 3 groups; group A, group B or group C.

· **Group (A)** 20 patients: nebulized ceftazidime (15 mg. kg. 3 h) plus nebulized amikacin (25 mg.kg-d) in addition to conventional IV antibiotics.

· **Group (B)** 20 patients: nebulized Colistin (1million IU every 8h) in addition to conventional IV antibiotics.

· **Group (C)** 20 patients: conventional IV antibiotics.

In all groups A,B and C, treatment was continued for five days followed by ETT aspirate.

Interpretation of culture results:

Clearance: no growth. **Resistance:** persistent pathogen. **Super infection:** eradication of previous pathogen with developing of another pathogen. **Resistance and super infection:** persistent responsible pathogen with developing of another pathogen.

Results

The clearance of organism was (75% vs. 80% vs. 50%), resistance was (5% vs. 5% vs. 20%), superinfection was (0% vs. 10% vs. 15%), while combined resistance and super infection was (20% vs. 5% vs. 15%) in group A vs. B vs. C respectively.

Comparing group B vs. C: a significantly greater clearance (80% vs. 50%, **p 0.047**) while no significant difference regarding resistance (5% vs. 20%, p 0.151), superinfection (2% vs. 15%, p 0.633), combined resistance and super infection (5% vs. 15%, p 0.292) in group B vs. C respectively.

Comparing group A vs. C: no significant difference in clearance (75% vs.50%, p 0.102), resistance (5% vs. 20%, p 0.151), superinfection (0% vs. 15%, p 0.072), combined resistance and super infection (20% vs. 15%, p 0.667) in group A vs. C respectively.

Comparing group A vs. B: no significant difference in clearance (75% vs.80%, p 0.705), resistance (5% vs. 5%, p 1.0), superinfection (0% vs. 10%, p 0.147), combined resistance and super infection (20% vs. 5%, p 0.151) in group A vs. B respectively.

Conclusions

The addition of Inhaled Colistin showed a significantly better organism clearance after 5 days compared to

inhaled Ceftazidime and Amikacin and compared to iv antibiotics without additional inhaled antibiotics, in treating gram negative VAP.

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