primary studies - published RCT

Efficacy of inhaled amikacin as adjunct to intravenous combination therapy (ceftazidime and amikacin) in cystic fibrosis.

Code: PM3309236 **Year:** 1987 **Date:** 1987 **Author:** Schaad UB

Study design (if review, criteria of inclusion for studies)

randomized trial

Participants

87 patients with cystic fibrosis were admitted to hospital with an acute exacerbation of pulmonary symptoms associated with isolation of Pseudomonas aeruginosa from sputum. The two therapy groups were comparable in all aspects.

Interventions

intravenously administered ceftazidime (250 mg/kg/day) and amikacin (33 mg/kg/day) alone or with inhaled amikacin (100 mg twice a day). Other aspects of the 2-week treatment were constant.

Outcome measures

eradication of P. aeruginosa, clinical, radiologic, laboratory, and pulmonary function measurements, toxicity and adverse effect.

Main results

At the completion of therapy, the addition of aerosolized amikacin produced temporary eradication of P. aeruginosa in 70% of the patients, compared with 41% in the intravenous therapy only group (P less than 0.02). Suppression of P. aeruginosa in sputum cultures was correlated with the amikacin sputum concentrations. However, both regimens resulted in similar improvements in clinical, radiologic, laboratory, and pulmonary function measurements, and within 4 to 6 weeks most patients were recolonized with P. aeruginosa. There was no serious toxicity or adverse effect.

Authors' conclusions

In patients with cystic fibrosis, the addition of aerosol aminoglycoside to systemic antipseudomonal combination therapy is not clinically beneficial.

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See also

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Keywords

Adolescent; Adult; Amikacin; Anti-Bacterial Agents; Bacterial Infections; Ceftazidime; Child; Combined Modality Therapy; Infection; Inhalation OR nebulised; Intravenous; pharmacological_intervention; Pseudomonas aeruginosa; Pseudomonas; Respiratory Tract Diseases; Respiratory Tract Infections; Exacerbation; Aminoglycosides; Cephalosporins;