primary studies - published RCT

Effect of chronic intermittent administration of inhaled tobramycin on respiratory microbial flora in patients with cystic fibrosis.

Code: PM10191222 **Year:** 1999 **Date:** 1999 **Author:** Burns JL

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

Microbiology results from two multicenter, double-blind, placebo-controlled trials

Participants

CF patients involved in two multicenter, double-blind, placebo-controlled trials of inhaled tobramycin in cystic fibrosis

Interventions

inhaled tobramycin

Outcome measures

longitudinal changes in sputum microbial flora, antibiotic susceptibility, and selection of P. aeruginosa isolates with decreased tobramycin susceptibility were measured. Clinical response was examined to determine whether current susceptibility standards are applicable to aerosolized administration.

Main results

Treatment with inhaled tobramycin did not increase isolation of Burkholderia cepacia, Stenotrophomonas maltophilia, or Alcaligenes xylosoxidans; however, isolation of Candida albicans and Aspergillus species did increase. Although P. aeruginosa tobramycin susceptibility decreased in the tobramycin group compared with that in the placebo group, there was no evidence of selection for the most resistant isolates to become most prevalent. The definition of resistance for parenteral administration does not apply to inhaled tobramycin: too few patients had P. aeruginosa with a tobramycin MIC >/=16 microgram/mL to define a new break point on the basis of clinical response.

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See also

J Infect Dis. 1999 May;179(5):1190-6.

Keywords

Adolescent; Adult; Anti-Bacterial Agents; Bacterial Infections; Child; Infection; Inhalation OR nebulised; Intermittent; pharmacological_intervention; Pseudomonas aeruginosa; Pseudomonas; Respiratory Tract Diseases; Respiratory Tract Infections; Tobramycin; Aminoglycosides;