primary studies - published RCT

Dosage adjustment and clinical outcomes of long-term use of high-dose tobramycin in adult cystic fibrosis patients.

Code: PM1761450 **Year:** 1991 **Date:** 1991 **Author:** Li SC

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

two-phase study. In phase one, a baseline (historical control) study of drug use patterns was performed. During the second phase, patients were randomly allocated to one of two schedules

Participants

adult patients with cystic fibrosis admitted for intravenous treatment with tobramycin for acute exacerbations of pseudomonal pulmonary infections

Interventions

Group A patients had tobramycin dosage regimens decided by clinicians based on pre-existing protocols using serum tobramycin assay data determined three times weekly. Group B patients had dosage regimens determined by a computerized pharmacokinetic predictive program using both population-based pharmacokinetic parameter estimation and fitting of serum concentration-time data using Bayesian regression. The agreed therapeutic target was a peak serum tobramycin concentration of 8-10 mg/L and a trough concentration of 1-2 mg/L

Main results

There was a major difference between the two groups comparing the number of paired trough and peak concentrations within the target concentration ranges (group A-14%; group B-34.7%, chi 2 test, P less than 0.001).

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See also

J Antimicrob Chemother. 1991 Oct;28(4):561-8.

Keywords

Adult; Anti-Bacterial Agents; Bacterial Infections; computer programs; High-Dose; Infection; Intravenous; non pharmacological intervention - psyco-soc-edu-org; pharmacological_intervention; Pseudomonas aeruginosa; Pseudomonas; Respiratory Tract Diseases; Respiratory Tract Infections; Tobramycin; Exacerbation; Psychoeducation; Aminoglycosides;