primary studies - published RCT

Minimisation of aminoglycoside toxicity in patients with cystic fibrosis.

Code: PM8733487 **Year:** 1996 **Date:** 1996 **Author:** Wood PJ

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

prospectively randomised open label therapeutic trial

Participants

29 patients were recruited during a six month period, 20 to group A and nine to group B.

Interventions

CF patients in group A received tobramycin eight hourly using a dose aimed at generating a peak concentration of 10 mg/l with trough concentrations below 2 mg/l, and those in group B received the total daily dose required to achieve eight hourly target concentrations administered as two equal 12 hourly doses.

Outcome measures

Clinical outcomes measured and assessed included vestibular symptoms, hearing and renal function, length of hospital stay, readmission rate, and mortality.

Main results

Twenty nine patients were recruited during a six month period, 20 to group A and nine to group B. The average peak tobramycin level was higher in group B (12.5 (2.2) mg/l) than in group A (7.9 (1.9) mg/l), whilst the average trough level was higher in group A (0.8 (0.3) mg/l) than in group B (0.5 (0.2) mg/l). There was a difference in the number of ototoxic events between patients in group A (seven of 18, 38.9%) and group B (none of eight), but no difference was found in other outcome measures assessed.

Authors' conclusions

These results suggest that 12 hourly high peak aminoglycoside dosing may be less toxic than equivalent eight hourly dosing, without any apparent difference in efficacy.

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See also

Thorax. 1996 Apr;51(4):369-73.

Keywords

Adult; Aminoglycosides; Anti-Bacterial Agents; Drug Administration Schedule; pharmacological_intervention; Tobramycin; Bacterial Infections; Respiratory Tract Infections; Respiratory Tract Diseases; Infection;