primary studies - published RCT

Nebulisers comparison with inhaled tobramycin in young children with cystic fibrosis.

Code: PM16839826 **Year:** 2007 **Date:** 2007 **Author:** Clavel A

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

randomised cross-over pilot study

Participants

10 cystic fibrosis children aged 10 to 63 months

Interventions

Tobramycin 300 mg in 5 ml via: 1. Pari LC plus® with Turboboy® (conventional); 2. atomiser box plus a form of jet nebuliser (conventional).

Outcome measures

Urine was collected for 6 h. Tobramycin concentrations determined by immunoprecipitation were expressed in mg per g of creatinine and compared by a Wilcoxon test for matched pairs. The influences of age, weight and Brasfield score on this parameter were evaluated by correlation tests, and those of sex, previous nebulisation treatment, and crying or coughing were evaluated by Student's t-test.

Main results

The amount of tobramycin measured in urines was low and variable. Median values for urinary tobramycin concentration were 47.6 mg/g (14.9-79.6) with the PariLC+ and 42.6 mg/g (6.3-112.8) with the NL9M (p=0.6). PariLC+ delivered tobramycin in 22 min and NL9M in 12 min (p=0.005). Crying or coughing dramatically reduced the amount of tobramycin collected.

Authors' conclusions

This pilot study shows that evaluation of nebulisers based on tobramycin renal excretion is feasible in young children with cystic fibrosis.

http://dx.doi.org/10.1016/j.jcf.2006.06.002

See also

J Cyst Fibros. 2007 Apr;6(2):137-43. Epub 2006 Jul 12.

Keywords

Anti-Bacterial Agents; Child; Infant; Inhalation OR nebulised; nebuliser; non pharmacological intervention - devices OR physiotherapy; pharmacological_intervention; Tobramycin; Bacterial Infections; Respiratory Tract Infections; Respiratory Tract Diseases; Infection; Aminoglycosides;