primary studies - published RCT

Bronchodilation from intravenous theophylline in patients with cystic fibrosis: results of a blinded placebo-controlled crossover clinical trial.

Code: PM2654849 **Year:** 1989 **Date:** 1989 **Author:** Pan SH

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

randomized, double-blind, placebo-controlled, crossover trial

Participants

10 ambulant patients with CF (5 females, 5 males), aged 11 to 21 years

Interventions

Each patient received an intravenous dose of theophylline and normal saline over 1/2 hour on consecutive days. The theophylline dose administered was 7.9 +/- 0.4 (mean +/- SD) mg/kg

Outcome measures

Spirometry and whole-body plethysmography were performed at baseline, 1, 3, 5, and 7 h after the theophylline dose, and 10 blood samples were collected over 9 h on both study days. The percent change of PFT from the baseline was recorded. Analysis of variance for balanced two-period crossover design was used to evaluate the effectiveness of theophylline therapy. The serum concentration (Conc.) vs. time data were fitted using nonlinear least-squares regression analysis.

Main results

maximal Conc. (Cmax) of 14.6 +/- 2.7 microgram/ml. The half-life (T1/2), volume of distribution (Vd), and total body clearance (TBC) were 4.9 +/- 1.9 h, 537 +/- 124 mL/kg, and 80 +/- 16 ml/h/kg, respectively.

http://dx.doi.org/10.1002/ppul.1950060309

See also

Pediatr Pulmonol. 1989;6(3):172-9.

Keywords

Adolescent; Adult; Bronchodilator Agents; Child; Intravenous; pharmacological_intervention; placebo; Theophylline; Aminophylline; Xanthines; Respiratory System Agents;