primary studies - published RCT

Aerosolized amiloride: dose effect on nasal bioelectric properties, pharmacokinetics, and effect on sputum expectoration in patients with cystic fibrosis.

Code: PM10168532 **Year:** 1997 **Date:** 1997 **Author:** Hofmann T

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

double-blinded, randomized trial

Participants

20 CF patients

Interventions

inhalation of different doses of aerosolized amiloride.

Outcome measures

The effect of inhaled amiloride was assessed principally by nasal potential difference (PD) measurements. Amiloride serum levels were measured after inhalation of aerosolized amiloride. sputum production was quantitated

Main results

The results of this study showed that maximal initial PD inhibition was achieved by 6 x 10(-3)M of amiloride. The duration of inhibition of PD (effective time until return to 50% delta PD [ET50] after nasal administration) was dose dependent (10(-3)M, 39 +/- 0.8 minutes; 10(-2)M; 133 +/- 14 minutes). Amiloride serum levels were below 2.5 ng/ml in 20 of 28 patients; levels were above 5 ng/ml only within 4 hours after high dose inhalation (10(-2)M). In the double-blinded, crossover study, more sputum was expectorated after amiloride inhalation as compared with that after a placebo (P

Authors' conclusions

the bioelectric effects of amiloride and serum levels after inhalation are dose dependent, and amiloride is effective at inducing sputum expectoration in CF.

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See also

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Keywords

Adolescent; Adult; Amiloride; Child; Inhalation OR nebulised; Intranasal; pharmacological_intervention; ENaC antagonists - Sodium Channel Blockers; Airway clearance drugs -expectorants- mucolytic- mucociliary-; Respiratory System Agents;