primary studies - published RCT

Dry powder inhalation of colistin in cystic fibrosis patients: a single dose pilot study.

Code: PM17185047 **Year:** 2007 **Date:** 2007 **Author:** Westerman EM

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

randomised cross over study.

Participants

10 CF-patients, chronically infected with P. aeruginosa

Interventions

On two visits to the outpatient clinic, patients inhaled colistin sulphomethate as 25 mg dry powder (Twincer) or as 158 mg nebulised solution (Ventstream nebuliser, PortaNeb compressor).

Outcome measures

Pulmonary function tests were performed before, 5 and 30 min after inhalation. Serum samples were drawn prior to each dose and at 15, 45 min, 1.5; 2.5; 3.5 and 5.5 h after inhalation.

Main results

The DPI was well tolerated by the patients: no significant reduction in FEV1 was observed. Relative bioavailability of DPI to nebulisation was approx. 140% based on actual dose and approx. 270% based on drug dose label claim.

Authors' conclusions

The colistin DPI (Twincer inhaler) is well tolerated and appreciated by CF-patients. Optimisation with respect to particle size and internal resistance of the inhaler is necessary to attain equivalent pulmonary deposition to liquid nebulisation.

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See also

J Cyst Fibros. 2007 Jul;6(4):284-92. Epub 2006 Dec 20.

Keywords

Adult; Anti-Bacterial Agents; Colistin; Inhalation OR nebulised; nebuliser; non pharmacological intervention - devices OR physiotherapy; pharmacological_intervention; Powders; Bacterial Infections; Respiratory Tract Infections; Respiratory Tract Diseases; Infection; other anti-bacterial agents;