primary studies - published RCT

An evaluation of two aerosol delivery systems for rhDNase.

Code: PM9192926 **Year:** 1997 **Date:** 1997 **Author:** Shah PL

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

Parallel design, randomised, open-label study. Multicentre.

Participants

173 people with CF. > 5 years of age. FVC >40%. Oxygen saturations >90% room air.

Interventions

Hudson nebulizer and Pulmo-Aide compressor or to the Sidestream nebulizer driven by the CR50 air compressor. rhDNase was administered for 7 days. An in vitro study was performed in six sets of the two aerosol delivery systems.

Outcome measures

pulmonary function, nebulization rate, diameter for the aerosol mass, percentage of particles, FEV1 FVC FEF25-75, adverse events

Main results

Improvements in pulmonary function were observed in both groups following 1 week of therapy with rhDNase. Changes in the Sidestream/CR50 and Hudson/Pulmo-Aide groups, respectively, were: 16 and 11% for forced expiratory volume in one second (p=0.14); 12 and 10% for forced vital capacity (p=0.70); and 14 and 7% for forced expiratory flow at 25-75% of expiration (FEF(25-75)) (p=0.18). A greater proportion of patients in the Sidestream/CR50 group (58%) had a >10% response in FEF(25-75) compared to the Hudson/Pulmo-Aide group (42%; p=0.03). The Sidestream nebulizer had a faster nebulization rate (p

Authors' conclusions

The Sidestream/CR50 combination is a quicker, more efficient system in vitro than the Hudson/Pulmo-Aide combination, whereas the in vivo study only suggested a difference. Clinically, the two systems have similar efficacy.

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See also

Eur Respir J. 1997 Jun;10(6):1261-6.

Keywords

Adult; Deoxyribonuclease; Airway clearance drugs -expectorants- mucolytic- mucociliary-; Inhalation OR nebulised; nebuliser; non pharmacological intervention - devices OR physiotherapy; pharmacological_intervention; Recombinant Proteins; Respiratory System Agents; Dornase alpha; Pulmozyme;