primary studies - published RCT

RhDNase before airway clearance therapy improves airway patency in children with CF.

Code: PM17534979 **Year:** 2007 **Date:** 2007 **Author:** van der Giessen LJ

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

randomized, double blind, double dummy, cross over study

Participants

Inclusion criteria: CF, stable clinical condition, rhDNase maintenance therapy. Children

Interventions

rhDNase before ACT versus rhDNase after ACT in children with CF. Children in Group I inhaled rhDNase 30 minutes before ACT, and placebo directly after ACT in week 1-3. The protocol was reversed during week 4-6. Group II performed the reversed sequence. Patients continued their daily routine ACT.

Outcome measures

Primary endpoint: MEF(25) %pred. Pulmonary functions tests were performed on days 0, 14, 21, 35 and 42. In weeks 3 and 6 children scored cough and sputum production on daily diary cards.

Main results

24 patients completed the study. Mean age = 12 years (range 7-19). Mean MEF(25) %pred was 5.8% higher after 3 weeks of rhDNase before ACT, compared to rhDNase after ACT (58.3% vs 52.5%, p=0.01). There were no significant differences for any of the other variables

Authors' conclusions

Inhalation of rhDNase before ACT improves peripheral airway patency in children with cystic fibrosis. Since all children were already on maintenance rhDNase therapy before the study, this effect is additional to any existing effect of regular rhDNase.

http://dx.doi.org/10.1002/ppul.20636

See also

Pediatr Pulmonol. 2007 Jul;42(7):624-30.

Keywords

Adolescent; Child; Deoxyribonuclease; Drug Administration Schedule; Airway clearance drugs -expectorants- mucolytic- mucociliary-; Inhalation OR nebulised; nebuliser; non pharmacological intervention - devices OR physiotherapy; pharmacological_intervention; placebo; Recombinant Proteins; Respiratory System Agents; Dornase alpha; Pulmozyme;