primary studies - published RCT

Repeated adeno-associated virus serotype 2 aerosol-mediated cystic fibrosis transmembrane regulator gene transfer to the lungs of patients with cystic fibrosis: a multicenter, double-blind, placebo-controlled trial.

Code: PM14769732 **Year:** 2004 **Date:** 2004 **Author:** Moss RB

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

Double-blind randomised placebo controlled trial, parallel design, intention-to-treat basis.

Participants

Mean age 23.7 years. Confirmed CF, FEV1 >60%. 37 participants (15 males, 22 females).

Interventions

1x10(13) particles tgAAVCF 3 times (30 day interval) or matching placebo, nebulised to lungs.

Outcome measures

Respiratory exacerbations, adverse events, lung function, inpatient episodes, acquisition of new pathogens, gene expression, change in CT score.

Main results

Of 42 subjects randomized, 20 subjects received at least one dose of tgAAVCF and 17 subjects received placebo. No difference in the pattern of adverse events or laboratory abnormalities was noted between the two treatment groups. Improvements in induced-sputum interleukin-8 (p = 0.03) and FEV(1) (p = 0.04) were observed at day 14 and day 30, respectively, in the group receiving tgAAVCF when compared to those receiving placebo. No significant differences in HRCT scans were noted. Vector shedding in sputum was observed at low levels up to 90 days after the third dose of vector. All subjects receiving tgAAVCF exhibited an increase (by at least fourfold) in serum AAV2-neutralizing antibodies and detectable levels in BAL fluid from five of six treated subjects undergoing BAL. Gene transfer but not gene expression was detected in a subset of six tgAAVCF subjects who underwent bronchoscopy.

Authors' conclusions

Repeat doses of aerosolized tgAAVCF were safe and well tolerated, and resulted in encouraging trends in improvement in pulmonary function in patients with CF and mild lung disease.

http://dx.doi.org/10.1378/chest.125.2.509

See also

Chest. 2004 Feb;125(2):509-21.

Keywords

Adolescent; Adult; Child; Drug Administration Schedule; Gene Transfer Techniques; Infection; Inhalation OR nebulised; non pharmacological intervention - genetic& reprod; pharmacological_intervention; placebo; Respiratory Tract Diseases; Respiratory Tract Infections; transmembrane; Virus; tgAAVCF;