primary studies - published RCT

The effect of short-term, high-dose oral N-acetylcysteine treatment on oxidative stress markers in cystic fibrosis patients with chronic P. aeruginosa infection - A pilot study.

Code: PM25458464 **Year:** 2014 **Date:** 2014 **Author:** Skov M

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

Open-label, controlled, randomized trial

Participants

21 CF patients

Interventions

4weeks of oral N-acetylcysteine (NAC) treatment (2400mg/day divided into two doses). 11 patients in the NAC group and 10 in the control group.

Outcome measures

Biochemical parameters of oxidative burden and plasma levels of antioxidants were assessed at the end of the study and compared to the baseline values in the two groups.

Main results

A significant increase in the plasma levels of the antioxidant ascorbic acid (p=0.037) and a significant decrease in the levels of the oxidized form of ascorbic acid (dehydroascorbate) (p=0.004) compared to baseline were achieved after NAC treatment. No significant differences were observed in the control group. The parameters of oxidative burden did not change significantly compared to baseline in either of the groups. A better lung function was observed in the NAC treated group with a mean (SD) change compared to baseline of FEV1% predicted of 2.11 (4.6), while a decrease was observed in the control group (change -1.4 (4.6)), though not statistically significant.

Authors' conclusions

Treatment with N-acetylcysteine 1200mgx2/day for 30days significantly decreased the level of oxidized vitamin C and increased the level of vitamin C (primary end-points) and a not statistically significant improvement of lung function was observed in this group of patients.

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See also

J Cyst Fibros. 2014 Oct 23. pii: S1569-1993(14)00227-6. doi: 10.1016/j.jcf.2014.09.015.

Keywords

Acetylcysteine; Airway clearance drugs -expectorants- mucolytic- mucociliary-; Inhalation OR nebulised; N Acetylcysteine; pharmacological_intervention; Combined Modality Therapy; Oral; thiols; Antioxidants; Respiratory System Agents; Nacystelyn;