primary studies - published RCT

Oral L-arginine supplementation in cystic fibrosis patients: a placebo-controlled study.

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

pilot study. randomised double-blind placebo-controlled crossover study

Participants

1st part: 8 CF patients + 8 healthy controls. 2nd part: 10 CF patients (5 females)

Interventions

oral L-arginine was given in a single dose of 200 mg x kg(-1) body weight to healthy controls and CF patients. Subsequently, the same L-arginine dose was given to CF patients t.i.d. for 6 weeks

Outcome measures

L-arginine in plasma and sputum, eNO, FEV1

Main results

A single dose of oral L-arginine resulted in a 5.5-fold increase of L-arginine in plasma and a 1.3-fold increase of L-arginine in sputum after 2 h. Maximum eNO, within 3 h of L-arginine intake, increased significantly in both CF patients (5.4+/-2.1 ppb versus 8.3+/-3.5 ppb) and controls (18.0+/-8.1 ppb versus 26.4+/-12.3 ppb). Supplementation of L-arginine for 6 weeks resulted in a sustained increase in eNO compared to placebo (9.7+/-5.7 ppb versus 6.3+/-3.1 ppb). An effect of L-arginine supplementation on forced expiratory volume in one second was not observed.

Authors' conclusions

These data indicate that airway nitric oxide formation in cystic fibrosis patients can be augmented with oral L-arginine supplementation.

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See also

Eur Respir J. 2005 Jan;25(1):62-8.

Keywords

Adolescent; Adult; Arginine; Drug Administration Schedule; non pharmacological intervention - diet; Oral; placebo; Supplementation; Amino Acids; Proteins;