primary studies - published RCT

Effect of oral glycine on the clinical, spirometric and inflammatory status in subjects with cystic fibrosis: a pilot randomized trial.

Code: PM29246256 **Year:** 2017 **Date:** 2017 **Author:** Vargas MH

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

Randomized, double blinded, cross-over pilot clinical trial.

Participants

13 patients with cystic fibrosis (CF) aged 6-23 years, 8 females,

Interventions

Subjects with CF received, in random order, oral glycine (0.5 g/kg/day, dissolved in any liquid) and placebo (glass sugar), each during 8 weeks with an intermediate 2-week wash-out period.

Outcome measures

Symptom scores. Spirometric variables. Pulse oximetry . TNF-alpha in serum and IL-6

Main results

As compared with placebo, after glycine intake patients had better symptom questionnaire scores ($p = 0.02$), mainly regarding sputum features and dyspnea. While spirometric variables tended to decline during placebo intake, they remained stable or even increased during glycine treatment ($p = 0.04$ to $p = 0.003$). In this context, FEV1 declined 8.6% after placebo and increased 9.7% at the end of the glycine period. Pulse oximetry improved after glycine intake ($p = 0.04$ vs. placebo). TNF-alpha in serum and IL-6 and G-CSF in sputum tended to decline at the end of the glycine period ($p = 0.061$, $p = 0.068$ and $p = 0.04$, respectively, vs placebo). Glycine was remarkably well tolerated.

Authors' conclusions

The clinical, spirometric and inflammatory status of subjects with CF improved after just 8 weeks of glycine intake, suggesting that this amino acid might constitute a novel therapeutic tool for these patients. Thus, further studies are warranted.

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See also

BMC Pulm Med. 2017 Dec 15;17(1):206. doi: 10.1186/s12890-017-0528-x.

Keywords

Child; Glycine; non pharmacological intervention - diet; Supplementation; Amino Acids; Proteins;