primary studies - published RCT

Effect of macrolides on in vivo ion transport across cystic fibrosis nasal epithelium.

Code: PM15657462 **Year:** 2005 **Date:** 2005 **Author:** Barker PM

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

12-month, randomized, double-blind crossover study

Participants

18 human subjects with CF (17 DeltaF-508/DeltaF-508 and 1 DeltaF-508/other)

Interventions

Clarithromycin and azithromycin were tested in mice, and clarithromycin in patients with CF. Baseline and post-treatment NPD was measured in two strains (C57Bl6 and BalbC) of CF transmembrane regulator "knockout" and littermate control mice, and in DeltaF508/DeltaF508 mice. In addition, NPD was measured in subjects with CF.

Outcome measures

Nasal potential difference (NPD) measurements were used to test the effect of macrolides on airway epithelial ion (chloride, sodium) transport of CF mice and humans.

Main results

Neither clarithromycin nor azithromycin affected ion transport characteristics of normal or CF nasal epithelium in either mouse or humans.

Authors' conclusions

The apparent beneficial effects of macrolides on pulmonary outcome in CF are not mediated by their modulation of ion transport.

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See also

Am J Respir Crit Care Med. 2005 Apr 15;171(8):868-71. Epub 2005 Jan 18.

Keywords

Adolescent; Adult; Anti-Bacterial Agents; Azithromycin; Child; Clarithromycin; Macrolides; pharmacological_intervention; Bacterial Infections; Respiratory Tract Infections; Respiratory Tract Diseases; Infection; Anti-Inflammatory Agents; Anti-Inflammatory Agents - excl Steroids;