primary studies - published RCT

Continuous alternating inhaled antibiotics for chronic pseudomonal infection in cystic fibrosis.

Code: PM27233377 **Year:** 2016 **Date:** 2016 **Author:** Flume PA

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

Double-blind trial

Participants

Cystic fibrosis patients with chronic pseudomonal respiratory infections

Interventions

Continuous alternating therapy (CAT) vs an intermittent treatment regimen. Subjects were treated with 3cycles of 28-days inhaled aztreonam (AZLI) or placebo 3-times daily alternating with 28-days open-label tobramycin inhalation solution (TIS). 90 subjects were randomized over 18months.

Outcome measures

Exacerbation rates and rates of respiratory hospitalizations

Main results

90 subjects were randomized over 18months. Study enrollment was limited, in part because of evolving practices by clinicians of adopting a CAT regimen in clinical practice; consequently the study was underpowered. AZLI/TIS treatment reduced exacerbation rates by 25.7% (p=0.25; primary endpoint) and rates of respiratory hospitalizations by 35.8% compared with placebo/TIS (p=0.14). AZLI/TIS CAT therapy was well tolerated.

Authors' conclusions

This trial illustrates challenges with studying treatment regimens in a constantly evolving CF care environment. Nonetheless, the results of this trial indicate that AZLI/TIS CAT is well tolerated and may provide additional clinical benefit in CF patients compared with intermittent use of TIS alone.

http://dx.doi.org/10.1016/j.jcf.2016.05.001

See also

J Cyst Fibros. 2016 Nov;15(6):809-815. doi: 10.1016/j.jcf.2016.05.001. Epub 2016 May 24.

Keywords

Adult; Aged; Anti-Bacterial Agents; Aztreonam; Bacterial Infections; Child; Infection; Inhalation OR nebulised; pharmacological_intervention; Pseudomonas aeruginosa; Pseudomonas; Respiratory Tract Diseases; Respiratory Tract Infections; Tobramycin; Monobactams; Aminoglycosides;