primary studies - published RCT

Antibiotic exposure and interpersonal variance mask the effect of ivacaftor on respiratory microbiota composition.

Code: PM29042177 **Year:** 2018 **Date:** 2018 **Author:** Peleg AY

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

Double-blind, placebo-controlled, crossover study

Participants

Twenty CF patients with at least one G551D mutation from a single centre

Interventions

Crossover study of ivacaftor with 28days of active treatment.

Outcome measures

Sputum microbiota composition was assessed by 16S rRNA gene amplicon sequencing and quantitative PCR at five key time points, along with regular clinical review, respiratory function assessment, and peripheral blood testing.

Main results

No significant difference in microbiota composition was observed in subjects following ivacaftor treatment or placebo (PERMANOVA P=0.95, square root ECV=-4.94, 9479 permutations). Microbiota composition variance was significantly greater between subjects, than within subjects over time (P

Authors' conclusions

The short-term impact of ivacaftor therapy on sputum microbiota composition in patients with G551D mutations are modest compared to those resulting from antibiotic exposure, and may be masked by changes in antibiotic treatment regimen.

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See also

J Cyst Fibros. 2018 Jan;17(1):50-56. doi: 10.1016/j.jcf.2017.08.002. Epub 2017 Oct 15.

Keywords

Child; Adolescent; Adult; Aminophenols; Anti-Bacterial Agents; CFTR Modulators; pharmacological_intervention; VX-770; ivacaftor; G551D-CFTR; Genetic Predisposition to Disease;