primary studies - published RCT

A phase 3, double-blind, parallel-group study to evaluate the efficacy and safety of tezacaftor in combination with ivacaftor in participants 6 through 11 years of age with cystic fibrosis homozygous for F508del or heterozygous for the F508del-CFTR mutation and a residual function mutation.

Code: PM32967799 **Year:** 2021 **Date:** **Author:** Davies JC

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

Randomized controlled trial

Participants

6 through 11 years of age with cystic fibrosis (CF) homozygous for the F508del-CFTR mutation or heterozygous with a residual function-CFTR mutation (F/F or F/RF respectively).

Interventions

Participants were randomized 4:1 to tezacaftor/ivacaftor or a blinding group (placebo for F/F, ivacaftor for F/RF).

Outcome measures

The primary endpoint was within-group change from baseline in the lung clearance index 2·5 (LCI(2·5)) through Week 8. Secondary endpoints were change from baseline in sweat chloride (SwCl), cystic fibrosis questionnaire-revised (CFQ-R) respiratory domain score, and safety.

Main results

Sixty-seven participants received at least one study drug dose. Of those, 54 received tezacaftor/ivacaftor (F/F, 42; F/RF, 12), 10 placebo, and 3 ivacaftor; 66 completed the study. The within-group change in LCI(2Â·5) was significantly reduced (improved) by -0Â·51 (95% CI: -0Â·74, -0Â·29). SwCl concentration decreased (improved) by -12Â·3 mmol/L and CFQ-R respiratory domain score increased (improved, nonsignificantly) by 2Â·3 points. There were no serious adverse events (AEs) or AEs leading to tezacaftor/ivacaftor discontinuation or interruption. The most common AEs (â‰¥10%) in participants receiving tezacaftor/ivacaftor were cough, headache, and productive cough.

Authors' conclusions

Tezacaftor/ivacaftor improved lung function (assessed using LCI) and CFTR function (measured by SwCl concentration) in participants 6 through 11 years of age with F/F or F/RF genotypes. Tezacaftor/ivacaftor was safe and well tolerated; no new safety concerns were identified.

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See also

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Keywords

Children; CFTR Modulators; Genetic Predisposition to Disease; pharmacological_intervention; placebo; VX-770; VX-661; ivacaftor; Aminophenols; tezacaftor; VX-445; elexacaftor; non pharmacological intervention - diagn; Trikafta;