

Cystic Fibrosis Research News

Title:

A Phase 3, Randomized, Double-Blind, Parallel-Group Study to Evaluate Tezacaftor/Ivacaftor in People With Cystic Fibrosis Heterozygous for *F508del-CFTR* and a Gating Mutation

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What was your research question?

Is a drug called tezacaftor/ivacaftor safe and does it work better than ivacaftor alone to treat people 12 years old or older with cystic fibrosis (CF) who have 2 types of *CFTR* (gene that causes CF) mutations – the *F508del-CFTR* mutation and a *CFTR* mutation called a gating mutation?

Why is this important?

Other studies have looked at people 12 years old or older with CF and different mutations:

- Ivacaftor is safe and works well in people with a *CFTR* gating mutation
- Tezacaftor/ivacaftor is safe and works well in people with 2 copies of the *F508del-CFTR* mutation or one *F508del-CFTR* mutation and a type of *CFTR* mutation called a residual function mutation

However, no studies have looked at whether tezacaftor/ivacaftor works better than ivacaftor alone in people 12 years old or older with CF with one *F508del-CFTR* mutation and one gating mutation.



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What did you do?

This was a Phase 3, randomized, double-blind study, which means that the people in the study and the investigators did not know which drug people were taking. In the study, people aged 12 years old or older with CF with one *F508del-CFTR* mutation and one *CFTR* gating mutation took either tezacaftor/ivacaftor or ivacaftor alone for up to 8 weeks. We looked at how well tezacaftor/ivacaftor worked to treat CF compared to ivacaftor alone, how safe it was, and whether people could tolerate the drug (didn't have to stop taking it because of side effects).

What did you find?

We found that tezacaftor/ivacaftor worked well in treating people 12 years old or older with CF with these mutations but did not work better than ivacaftor alone. Tezacaftor/ivacaftor was generally safe for people in this study and did not have side effects that were hard to manage.

What does this mean and reasons for caution?

The results of this study show that tezacaftor/ivacaftor works well, but not better than ivacaftor alone, to treat people 12 years old or older with CF with one *F508del-CFTR* mutation and one *CFTR* gating mutation. These results also show that tezacaftor/ivacaftor is safe in people with CF in this age group with these types of mutations and does not cause side effects that are hard to manage.

What's next?

Elexacaftor combined with tezacaftor/ivacaftor is approved as a treatment for CF in the United States; it is also approved for some people with CF in Europe, although not for people with a *CFTR* gating mutation. Studies are looking at whether elexacaftor/tezacaftor/ivacaftor works well and is safe in people 12 years old or older with CF with one *F508del-CFTR* mutation and a *CFTR* gating mutation.

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