

# Cystic Fibrosis Research News

## Title:

Eradication of Nontuberculous Mycobacteria in People with Cystic Fibrosis Treated with Elexacaftor/Tezacaftor/Ivacaftor: A Multicenter Cohort Study

## Lay Title:

Eradication of Nontuberculous Mycobacteria in People with Cystic Fibrosis Treated with Elexacaftor/Tezacaftor/Ivacaftor

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## What was your research question?

Does treatment with elexacaftor/tezacaftor/ivacaftor (ETI) eliminate a species of bacteria called nontuberculous mycobacteria from the lungs of people with cystic fibrosis (CF)? Do the patients who eliminated the bacteria improve their lung function?

## Why is this important?

People with CF are especially vulnerable to infections with a group of bacteria called nontuberculous mycobacteria. Symptoms of infection with nontuberculous mycobacteria vary

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from mild symptoms to severe deterioration in lung function, to the point lung transplantation is required. Infections with nontuberculous mycobacteria are becoming more common in people with CF. These bacteria are very difficult to treat, requiring a combination of several antibiotics, that may cause significant side effects. ETI, a medication that most people with CF take to manage their CF, may remove the bacteria from the airways of people with CF. Thus, it could prevent the worsening of lung function and dramatically improve their health.

## What did you find?

Within a year of taking ETI, the patients in our study had fewer nontuberculous mycobacteria in their lungs. Moreover, in 66% of the patients (9 patients out of 15), nontuberculous mycobacteria were completely eliminated. The patients who eliminated the bacteria had improved lung function, while those who did not eliminate it did not.

## What does this mean and reasons for caution?

People with CF who take ETI may have fewer nontuberculous mycobacteria in their airways and improve their lung function. Since most people with CF already take ETI to manage their CF, it could mean that infections with nontuberculous mycobacteria could be massively reduced in the upcoming years.

We need to be cautious of these results since our study only examined one year after starting treatment with ETI, and the long-term effects of ETI on nontuberculous mycobacteria still need to be studied. Furthermore, our study included only 15 patients, all in Israel, and additional studies are needed to expand the results to the entire population of people with CF.

## What's next?

We hope to expand this research to a longer period of time to see the long-term consequences of treatment with ETI, as well as its impact on populations outside of Israel. In addition, we hope this study will inspire future research into how ETI could eliminate

nontuberculous mycobacteria in the airways, which could lead to the development of drugs that eradicate these bacteria in patients who are not entitled for ETI.

## Original manuscript citation in PubMed

<https://pubmed.ncbi.nlm.nih.gov/37173154/>