

Cystic Fibrosis Research News

Title:

Cannabinoid Receptor 2 Agonist, Lenabasum, for the Treatment of Pulmonary Exacerbations in Cystic Fibrosis

Lay Title:

Anti-inflammatory Treatment for Exacerbations in Cystic Fibrosis

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What was your research question?

Lenabasam is an oral medication which may reduce inflammation in the lungs, resulting in less exacerbations in CF and improving quality of Life.

Why is this important?

People with CF have lung infections, repeated lung exacerbations, increased treatment burden, decreased quality of life, and decreased survival. Lung exacerbations occur frequently in the lives of CF, resulting sometimes in permanent loss of lung function. Although antibiotics can help with chronic infection, there is a need for new medications to reduce lung inflammation in CF. Lenabasum is a drug that was previously shown to reduce the amount of lung inflammation and number of exacerbations in a small group of people with CF.

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What did you do?

This study was an international multi-center, blinded, randomized clinical trial conducted (US, Canada, Eastern and Western Europe) to assess safety and possible benefits of lenabasum. Participants received either a higher dose of lenabasum, a lower dose of lenabasum, or placebo twice a day for 6 months. Safety, lung function, symptoms, and exacerbation information were collected throughout the study. Our primary interest was to study rates of lung exacerbation between the groups, which were defined as a physician diagnosis and prescription of an oral or intravenous antibiotics to treat the exacerbation.

What did you find?

There were over 400 subjects randomized in 21 countries, and more than half of participants had at least one exacerbation over the 6-month study period. Lenabasum did not decrease rates of exacerbations, with no difference in exacerbation rates for people receiving the higher lenabasum dose, the lower dose lenabasum, or placebo. There was no difference in improvement in respiratory symptoms, or time to the next exacerbation. Lenabasum was safe and well tolerated, and majority of adverse events reported were mild to moderate in severity.

What does this mean and reasons for caution?

Chronic inflammation as well as chronic infection are a major cause of lung damage in CF, and while we have antibiotics that can fight infection in CF, there are less anti-inflammatories that have been shown to be effective in reducing the large amount of inflammation in CF. In this trial, there was a lack of lenabasum in reducing exacerbations or improving symptoms, suggesting a lack of benefit. Therefore, the medication will not be pursued in additional clinical trials.

What's next?

As inflammation is high in people with CF and can cause chronic lung damage, reduction in inflammation remains a goal for future research. Therefore, new approaches to treat inflammation in CF will need to be investigated in the future.

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