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Cystic Fibrosis Research News

Title:
Clinical impact of levofloxacin inhalation solution in cystic fibrosis patients in a real-world setting

Lay Title:
Effect of inhaled antibiotic therapy with levofloxacin in people with cystic fibrosis

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What was your research question?
Our aim was to see how inhaling the antibiotic levofloxacin affects people with cystic fibrosis and their state of health.

Why is this important?
A variety of bacteria (germs) often colonise the airways of people with cystic fibrosis. Repeated infections with these bacteria can significantly worsen lung function in cystic fibrosis, especially if the infections are chronic. Lung disease continues to have a major impact on cystic fibrosis survival today. Therefore, treating lung infections is a high priority. Inhaling antibiotics allows a high concentration of medications to reach the airways with minimal side effects to the rest of the body.

What did you do?
This study was the first real-world study on the use of inhaled levofloxacin solution in clinical practice. That means no randomisation was performed and patients with lower lung function could also be included in this study.
We looked at how inhaling levofloxacin affected people with cystic fibrosis and checked specifically whether this treatment influenced lung function, body mass index (BMI) and the frequency of respiratory infections. We collected clinical data and evaluated the results from people who inhaled levofloxacin twice a day for at least 4 weeks.

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What did you find?

We saw an improvement in lung function after 4 weeks of inhaling levofloxacin. We did not see any change in the BMI of the people taking part in the study. Also, after one year of treatment, the frequency of respiratory infections decreased compared to the year before starting levofloxacin inhalation.

What does this mean and reasons for caution?

This study showed that treatment of inhaling levofloxacin was safe in people with cystic fibrosis and the treatment was followed by both a significant improvement in lung function and a significant reduction in the frequency of respiratory infections.
We also noted a decrease in the detection of Pseudomonas aeruginosa and Staphylococcus aureus bacteria after inhalation therapy with levofloxacin. Reason for caution is the taste of the drug. Therefore, dysgeusia should be mentioned by the prescribing doctor before the patient starts to inhale the drug.

What's next?

Further multinational studies should be conducted to determine the best treatment schedules and doses for inhaled antibiotic therapies in people with cystic fibrosis.

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