

Cystic Fibrosis Research News

Title:

Pilot trial of tobramycin inhalation powder in cystic fibrosis patients with chronic *Burkholderia cepacia* complex infection

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What was your research question?

Our research question was whether high dose of inhaled tobramycin (an antibiotic) could kill the bacteria (germ) *Burkholderia cepacia* complex, which infects the lungs of people with cystic fibrosis (CF) and causes them to become sicker.

Why is this important?

This is important because we currently do not have a way of treating people with CF to prevent them from becoming sicker. This bacteria is very resistant to many drugs but we found that in the lab, very high concentrations of the drug tobramycin (like what is given through inhalation), could kill it. We wanted to know whether this drug would work in those infected by the bacteria.

What did you do?

A total of 10 people with CF (4 children and 6 adults) were enrolled in the study and given inhaled tobramycin (tobramycin inhalation powder) for 28 days. We measured lung function, the amount of bacteria and the amount of inflammation in their sputum (spit) before and after the treatment.

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What did you find?

In those treated, we found that the amount of bacteria and the amount of inflammation decreased after treatment but that the lung function did not increase significantly. The treatment was generally well tolerated in the majority of individuals.

What does this mean and reasons for caution?

This means that in some people with CF and infected with *B. cepacia* complex, tobramycin inhalation powder may be helpful in reducing the amount of bacteria and decreasing inflammation in the lungs. This treatment was not seen to increase the lung function of these individuals but we must be cautious in interpreting these results because the study did not have a control group (that is, individuals who did not receive the treatment) and the treatment only lasted 1 month.

What's next?

Larger studies over a longer period, with both a treatment and control group, are needed to find more effective drugs to successfully treat *B. cepacia* complex infection in people with CF and improve their lung function.

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