Cystic Fibrosis Research News

Title:
ERADICATION OF EARLY P. AERUGINOSA INFECTION IN CHILDREN <7 YEARS OF AGE WITH CYSTIC FIBROSIS: THE EARLY STUDY

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What was your research question?
How effective is inhaled tobramycin solution (TOBI) in treating lung infections due to *Pseudomonas aeruginosa* in young children, between the ages of 3 months and 7 years.

Why is this important?
*Pseudomonas aeruginosa* is a bacterium, which is known to cause significant lung damage in individuals with cystic fibrosis. Various antibiotic treatment regimens are used in an attempt to eradicate infection early on and avoid chronic colonisation. While inhaled antibiotics are used, it is unclear as to how effective they are in treating early infections in children at this young age.

What did you do?
In a clinical study we have enrolled children between the ages of 3 months and up to 7 years of age with a positive culture for *Pseudomonas aeruginosa*. Patients received either TOBI or placebo for the first 28-days. Following the 28 days, patients who still cultured *Pseudomonas aeruginosa* received TOBI. Patients who did not have a positive culture for *Pseudomonas aeruginosa* at Day 28 could choose whether they wanted to receive study medication for an additional 28-Days or not. Patients who cleared the infection were followed for 12 months after the study to track their cultures. If another positive culture was reported, the patients received an additional 28-days of TOBI.

What did you find?
Patients with an early *Pseudomonas aeruginosa* infection that is treated shortly after the bacterium is detected, had more positive outcomes using TOB, than the patients whose treatment was postponed for a few weeks.

What does this mean and reasons for caution?
Our study has shown that early treatment of patients with *Pseudomonas aeruginosa* infection with TOBI can be effective in clearing the infection. The study has further found that earlier treatment might be better than delaying inhaled antibiotic therapy. However, the study was completed within a small number of patients (n=51) and the study design was complicated. Currently, TOBI is not approved for use in children less than 6 years of age.
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What’s next?
We hope that this new information will be useful for physicians as they decide how to treat early *Pseudomonas aeruginosa* infections, leading to more success in treating young children with cystic fibrosis.

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