

Cystic Fibrosis Research News

Title

Effectiveness of a stepwise *Pseudomonas aeruginosa* eradication protocol in children with cystic fibrosis

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What was your research question?

We wanted to assess how effective a multistep antibiotic protocol was to clear new episodes of *Pseudomonas aeruginosa* (Pa), a bacteria (germ) causing infections in children with cystic fibrosis.

Why is this important?

Antibiotics are given to try to clear Pa infection, because it causes lung damage in children with CF. If the first antibiotic fails, there is limited information about what to do next.

What did you do?

We looked at the experience in our clinic between 2010-2015, to see how good our three-step antibiotic protocol was at clearing Pa infection from the lungs of children with CF.

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Step 1 was one month of an inhaled antibiotic (tobramycin). For patients who didn't clear their Pa infection in Step 1, we used Step 2, which was a second course of inhaled tobramycin. If patients were still positive for Pa, we did Step 3 – 2 weeks of intravenous antibiotics followed by inhaled tobramycin.

What did you find?

In 128 patients with CF, we found that Pa was cleared in 77% of cases after Step 1 (one month of inhaled tobramycin). Overall, 88% of cases cleared the infection at the end of the entire protocol suggesting that we can get rid of Pa infection in the majority of children.

What does this mean and reasons for caution?

Our study shows that a multistep antibiotic protocol for Pa infection can be used in the CF clinic. The first step is the most successful, but further steps can help to achieve clearance in the majority of patients. Even though this information is useful, we have to keep in mind that it was a study looking back at patients' medical records rather than a clinical trial.

What's next?

We hope that this new information regarding Pa infection treatment in patients who fail the first round of antibiotics can help other doctors to more successfully treat Pa infection in their CF patients. More research is needed to determine which specific antibiotic protocol is the most effective in terms of helping patients to clear Pa infection.

Original manuscript citation in PubMed

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