

Cystic Fibrosis Research News

Title:

C-reactive protein (CRP) as a biomarker of pulmonary exacerbation presentation and treatment response

Lay Title:

Measuring inflammation in blood during exacerbation treatment

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What was your research question?

We wanted to know if measuring a protein found in the blood called C-reactive protein (CRP) was a good way to tell how well people with CF were responding to treatment with intravenous antibiotics for pulmonary exacerbation.

Why is this important?

Although many people with CF are treated with intravenous antibiotics for pulmonary exacerbations, we don't know what the best treatment choices are because measuring how well different treatments work takes a lot of people in clinical trials, and these trials have not been run. If measuring the amount of CRP in someone's blood is a sensitive way to tell how they are responding to treatment, it might be a way to make clinical trials comparing different exacerbation treatments smaller and much easier to do.

What did you do?

We looked at the amount of CRP in the blood of participants in a large clinical trial of pulmonary exacerbation treatments called STOP2 before, during, and after they were treated



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with intravenous antibiotics. Then we compared how changes in the amount of CRP in their blood compared with how much their lung function and symptoms of exacerbation improved.

What did you find?

On average, people being treated for exacerbation had more CRP in their blood when they started treatment than when they were finished treatments, but how much CRP changed in the blood of a person didn't really match how much their lung function improved or symptoms got better.

What does this mean and reasons for caution?

This means that looking at CRP in blood is not a very good way to tell how people are responding to exacerbation treatment, and so it is not a way to make clinical trials smaller and easier to perform. We need to be cautious because the STOP2 trial only had adults in it and measuring CRP might work better in children.

What's next?

As part of the STOP2 study, blood samples were collected and stored for future research, making it possible to look for other things in blood that might be better than CRP at showing how people are responding to treatment.

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