

Cystic Fibrosis Research News

Title:

THE USE OF FRUCTOSAMINE IN CYSTIC FIBROSIS-RELATED DIABETES (CFRD) SCREENING

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What was your research question?

Is a simple and convenient blood test that measures fructosamine useful in helping to identify cystic fibrosis-related diabetes (CFRD)?

Why is this important?

CFRD is a frequent complication in people with cystic fibrosis (CF). It is very important to detect CFRD because it can lead to worsening lung function and earlier age of death. Currently, the only way to diagnose this disease is with a cumbersome 2-hour oral glucose tolerance test (OGTT), which requires overnight fasting, consumption of a sugar drink, and an extended stay at the lab. Given the unpleasant and inconvenient nature of this test, the search is on to find a simpler alternative to help identify CFRD.

What did you do?

We asked adult CF patients going for their annual CFRD testing to give an extra vial of blood while they were at the lab doing the OGTT. We then measured fructosamine in these blood samples and compared the fructosamine and OGTT results.



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What did you find?

Patients with normal OGTT results tended to have low fructosamine, whereas those with abnormal OGTT results had higher fructosamine. We found that the fructosamine test was able to reliably identify patients with abnormal OGTT results. Interestingly, patients with higher fructosamine also tended to have lower lung function, suggesting that fructosamine results may be reflective of disease burden.

What does this mean and reasons for caution?

Our findings suggest that fructosamine may be a useful first test to help identify CFRD. Patients with low fructosamine results may no longer have to do the OGTT, thus making testing for CFRD much simpler and more convenient for many people with CF. However, patients with high fructosamine results would still need to perform the OGTT as a confirmatory test. While the findings of our study are promising, only a small number of patients were assessed. Therefore, we still need to confirm our findings in a much larger group of patients before fructosamine can be used to help identify CFRD.

What's next?

We are currently expanding our study to multiple cities across Canada in order to allow a greater number of people with CF to participate.

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