Cystic Fibrosis Research News

Title:
Variability of the sweat test in children with Cystic Fibrosis previously CRMS/CFSPID: A retrospective monocenter experience

Lay Title:
Variability of the sweat test in children with Cystic Fibrosis previously with an inconclusive diagnosis

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What was your research question?
Sweat test variability is a known problem, especially in people with values in the intermediate range, with inconclusive CF diagnosis. In this paper, we wanted to see how much this variability affected those who had a positive newborn screening for Cystic Fibrosis and an inconclusive diagnosis.

Why is this important?
The label of inconclusive diagnosis in positive Cystic Fibrosis newborn screening subjects causes long-term psychological impact and parental distress. Proper communication based on the sweat test results is therefore essential to clarify that the child is not ill, but also to justify the need for further follow-up. In case of an inconclusive diagnosis, the sweat test is the only non-invasive tool that can guide the final diagnosis.

What did you do?
We retrospectively analysed sweat test results in 37 children with Cystic Fibrosis (control group) and 37 children with inconclusive diagnosis using the positive newborn screening technique. We then compared the two groups in order to evaluate the variability of the sweat test over time.

What did you find?

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Our data highlighted that there was more variability of sweat chloride in children who previously had an inconclusive diagnosis that children who previously had clearly tested positive i.e. the control group.

What does this mean and reasons for caution?

Our data will be useful to improve communication with the families of these children and better manage these cases. For example, avoiding the prescription of drugs or invasive tests in child without symptoms how have a positive sweat test. The main limitation of our study was the analysis on pre-existing data and the different number of tests performed, in different groups of subjects. However, the two groups studied differed in the number of sweat tests performed (less in the CF control group) and this may have influenced the outcome we saw.

This may influence the variation in sweat test. In addition, it is clear that the classification of inconclusive diagnosis may change over time, and sweat test values may have greater variability over time than those with a positive value for cystic fibrosis from the beginning.

What's next?

Further studies with larger sample sizes are needed to evaluate whether reclassifying symptomless subjects with inconclusive diagnosis as Cystic Fibrosis based only on pathological sweat test values is correct.

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