

Cystic Fibrosis Research News

Title:

Weight A Minute: Exploring the effect on weight and body composition after the initiation of Elexacaftor/ Tezacaftor/ Ivacaftor in adults with CF

Lay Title:

Weight A Minute: Exploring the effect on total weight, fat and fat-free weight after the initiation of Elexacaftor/ Tezacaftor/ Ivacaftor in adults with CF

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What was your research question?

The CFTR modulator Elexacaftor/Tezacaftor/Ivacaftor (ETI) is a medicine that treats the underlying fault of CF, helping the effective transport of salts and water across the cells in the body. The medicine has proven to be very good at improving the health of most people with CF. However, ETI is also known to increase the chances of weight gain. Although little is known whether the weight gained is body fat or fat-free weight, fat-free weight being the part of the body's non-fat tissue that includes muscle. We wanted to understand if total, fat and fat-free weight levels changed after our adult people with CF (PwCF), attending the All Wales Adult CF Centre, started to take ETI. We also wanted to see if there were differences between men and women.

Why is this important?

Levels of overweight and obesity are increasing in adult PwCF and CFTR modulators are thought to be contributing to this trend. There is emerging evidence in CF to suggest overweight and obesity, or high fat weight, even if total weight is in the healthy range, may increase risk of health problems such as diabetes, heart disease and worsening lung function. Conversely, healthy levels of fat-free weight are thought to be health protective.

What did you do?

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We measured total weight, fat weight, fat-free weight, lung function and sweat salt levels before and after our adult PwCF were prescribed ETI.

What did you find?

Overall, we studied 109 adults, of which 76 were males and 33 were females. Looking at the total population they experienced approximately the same reduction in sweat salt levels and increase in lung function and total weight as that of the original ETI trials.

Considering total weight change, a lot more men than women became overweight. However, when looking at fat weight and fat-free weight change, although the women tended to maintain a healthy total weight, they also experienced a larger increase in fat weight, whilst the men mostly gained fat-free weight.

What does this mean and reasons for caution?

It is too early to know for sure what our results mean in relation to long-term health of adults as they grow older. More assessments in the future will help us understand the pattern of change in total, fat and fat-free weight. However, by continuing to monitor all of these health markers we are able to provide nutritional and activity-based health plans for each individual, with the aim of achieving healthy levels of fat and fat-free weight.

What's next?

We plan to continue to measure total, fat and fat-free weight in our adult population to find out what happens over a longer period. Additionally, we would hope to explore any links between these health markers and other measures of health, such as lung function, heart health and diabetes risk so that we can continue to provide nutritional and activity advice specific to the individual.

Original manuscript citation

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