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Cystic Fibrosis Research News

Title:
Sustained effectiveness of elexacaftor-tezacaftor-ivacaftor in lung transplant candidates with cystic fibrosis

Lay Title:
Elexacaftor-tezacaftor-ivacaftor provides continued health improvement in lung transplant candidates with cystic fibrosis

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What was your research question?
Elexacaftor-tezacaftor-ivacaftor induces rapid clinical improvement in persons with cystic fibrosis (pwCF) and advanced lung disease, often leading to suspending the need for lung transplantation. Yet no long-term data is available in lung transplant candidates.

Why is this important?
Evaluating the effectiveness of elexacaftor-tezacaftor-ivacaftor after one year of treatment in pwCF who were lung transplant candidates at the time of starting therapy appears reasonable to determine whether listing for lung transplantation can be safely deferred.

What did you do?
The aims of this study were to describe the progression of patient status toward lung transplantation twelve months after the initiation of elexacaftor-tezacaftor-ivacaftor among those enrolled in the French early access program, and to describe the progression of their lung function, nutritional status, healthcare use and coexisting treatments, including oxygen therapy and non-invasive ventilation.

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What did you find?

The twelve-month follow-up of all lung transplant candidates with CF who started elexacaftor-tezacaftor-ivacaftor through the French early access program shows that most experienced rapid and substantial clinical improvement to the extent that they no longer met transplantation criteria. Improvement in lung function, body weight, and gas exchange (leading to stopping long-term oxygen and non-invasive ventilation in many people) was sustained over the 12 months following starting treatment.

What does this mean and reasons for caution?

To the best of our knowledge, these results provide the first evidence of prolonged disease modification in pwCF with very advanced lung disease who were candidates for lung transplantation. We therefore recommend that all people with advanced lung disease and a Phe508del mutation be treated with elexacaftor-tezacaftor-ivacaftor before considering listing for transplantation. Although listing for lung transplantation can be deferred in most individuals, access to lung transplantation should be kept available and decision to proceed to lung transplantation should be the result of shared-decision making between pwCF and their CF/transplant physicians.

What's next?

Long-term (over multiple years) monitoring of pwCF with severe respiratory disease that are treated with highly effective CFTR modulators is necessary in order to examine the likelihood of clinical decline occurring over time, to the extent that lung transplantation may again be required.

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