primary studies - published RCT

Impact of Discontinuing Both Hypertonic Saline and Dornase Alfa after Elexacaftor-Tezacaftor-Ivacaftor in Cystic Fibrosis.

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Study design (if review, criteria of inclusion for studies)

Randomized controlled trial

Participants

SIMPLIFY participants â‰¥12 years old on ETI and constituting a subgroup using both HS and DA at study entry.

Interventions

SIMPLIFY participants â‰¥12 years old on ETI and constituting a subgroup using both HS and DA at study entry were randomized to the HS or DA trial and then randomized 1:1 to continue or discontinue the applicable therapy for 6 weeks. After completion of the first trial, eligible participants could enroll in the second trial beginning with a 2-week run-in.

Outcome measures

Study outcomes were compared across the duration of SIMPLIFY participation between a cohort remaining on both therapies during SIMPLIFY and a cohort that sequentially discontinued both as a result of trial randomizations. Multivariable regression models were used to estimate treatment differences, adjusted for time between trials, trial order, baseline age, sex at birth, and percent predicted forced expiratory volume in 1 second (ppFEV(1)) at study entry.

Main results

Forty-three participants discontinued both therapies by the end of SIMPLIFY, and 63 remained on both, with overall average ppFEV(1) of 96.7% at study entry and 3.9 months as the average duration of follow-up from beginning of the first trial to completion of the second trial, including time between trials. No clinically meaningful difference in the change in ppFEV(1) from baseline to completion of the second trial was observed between those who discontinued and those who remained on both therapies (difference: 0.22% off-on; 95% confidence intervalâ€‰=â€‰-1.60, 2.03). Changes in lung clearance index at 2.5% starting concentration, patient-reported outcomes, and safety outcomes were also comparable. Patient-reported treatment burden, as measured by a Cystic Fibrosis Questionnaire-Revised subscale, significantly decreased in those who discontinued both therapies.

Authors' conclusions

SIMPLIFY participants who sequentially discontinued both HS and DA experienced no meaningful changes in clinical outcomes and reported decreased treatment burden as compared with those who remained on both therapies. These data continue to inform a new era of postmodulator care of people with cystic fibrosis.

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See also

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Keywords

Adolescent; Child; Deoxyribonuclease; Drug Administration Schedule; Airway clearance drugs -expectorants- mucolytic- mucociliary-; hydration; Hypertonic Solutions; Inhalation OR nebulised; nebuliser; non pharmacological intervention - devices OR physiotherapy; pharmacological_intervention; Recombinant Proteins; Respiratory System Agents; Dornase alpha; Pulmozyme;