primary studies - published, non RCT

Long-term therapy with CFTR modulators consistently improves glucose metabolism in adolescents and adults with cystic fibrosis.

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

Retrospective study

Participants

15 pwCF, ages 13-37 years

Interventions

CFTR modulator (CFTRm) therapies.

Outcome measures

Glycemic control. Oral Glucose Tolerance Test (OGTT) results were compared pre- and post-CFTRm therapy.

Main results

The 120-min OGTT value decreased from 159.7 mg/dL to 130.4 mg/dL post-CFTRm ($p = 0.047$). The average time elapsed between the two OGTTs was 49.87 months (ranging 9-157 months, median 38 months). Glycemic status improved in six pwCF (two CFRD to normal (NGT)/indeterminate (INDET) glucose tolerance; two impaired glucose tolerance (IGT) to INDET; two INDET to NGT) and worsened in one (IGT to CFRD). Six pwCF and NGT remained stable with no changes in glycemic status throughout the follow-up period.

Authors' conclusions

CFTRm therapy may decelerate the glycemic control deterioration in pwCF over an extended period. These findings indicate the need for periodic OGTTs following the initiation of CFTRm therapy to appropriately adjust insulin requirements and prevent hypoglycemia. Further larger cohorts are required to authenticate and substantiate these findings.

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See also

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Keywords

CFTR Modulators; Genetic Predisposition to Disease; pharmacological_intervention; placebo; VX-770; VX-661; ivacaftor; Aminophenols; tezacaftor; VX-445; elexacaftor; Trikafta;