
Other Reviews - - Other Review

Prenatal CFTR modulator therapy and fetal meconium ileus in cystic fibrosis: a systematic review and individual patient data meta-analysis.

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

Systematic review with meta-analysis

Participants

18 studies. 42 fetuses antenatally diagnosed with MI and exposed to CFTRm

Interventions

Prenatal CFTRm therapy, administered to carrier mothers or mothers with CF.

Outcome measures

Efficacy of prenatal CFTRm therapy. Surgery after birth, meconium ileus (MI).

Main results

Included 18 studies. Among 42 fetuses antenatally diagnosed with MI and exposed to CFTRm, 12% (95% CI, 6%-25%) required surgery after birth. Comparison with a historical cohort suggested a possible 59.5% absolute reduction in the risk of surgery (95% CI, 44%-69%). None of the nine asymptomatic fetuses exposed to treatment developed MI. On meta-regression, the diagnosis of MI in second trimester was associated with lower odds of surgery (OR 0.05, 0.01-0.50; $p = 0.011$), whereas maternal treatment duration shorter than 5 weeks was associated with increased odds (OR 15.15, 1.41-162.73; $p = 0.025$).

Authors' conclusions

Prenatal exposure to CFTRm appears to be effective in treating or preventing MI in fetuses with CF. However, the evidence is limited to case reports or small observational studies and prospective controlled studies are needed.

<http://dx.doi.org/10.1016/j.jcf.2026.08.005>

See also

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Keywords

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