Cochrane Database of Systematic Reviews - - Cochrane Review

Continuous glucose monitoring systems for monitoring cystic fibrosisâ€•related diabetes.

Code: CD013755 **Year:** 2021 **Date:** 2020 - updated 23 SEPT 2021 **Author:** Toner A

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

Cross-sectional studies and prospective cohort studies. Randomised comparisons of tests in which all participants have been cross-classified with a reference standard will be included. Excluded: case-control studies, case reports, studies where CGMS is performed retrospectively after an abnormal OGTT.

List of included studies (0)

No eligible trials were identified.

Participants

People (both children and adults) with CF in whom cystic fibrosis-related diabetes (CFRD), as outlined by the ADA 2016 criteria, is suspected or who are being routinely screened for CFRD.

Interventions

Comparison of continuous glucose monitoring systems (CGMS) (index test) against the reference standard (diagnosis of CFRD as outlined by the ADA criteria) in the diagnosis of cystic fibrosis-related diabetes (CFRD).

Outcome measures

Accuracy of continuous glucose monitoring systems (CGMS) in detecting abnormalities of glycaemic control. The clinical reference standard is the diagnosis of CFRD as outlined by the ADA criteria

Main results

Review authors screened 14 studies at the fullâ€•text stage against the review's inclusion criteria. Consequently, seven were excluded due to the study type being ineligible (not randomised), two studies were excluded due to their crossâ€•over design, and two studies was excluded since the intervention used was not eligible and one was a literature review. One study in participants hospitalised for a pulmonary exacerbation is ongoing. Investigators are comparing insulin dosing via insulin pump with blood sugar monitoring by a CGMS to conventional diabetes management with daily insulin injections (or on an insulin pump if already on an insulin pump in the outpatient setting) and capillary blood glucose monitoring. The participants in the control arm will wear a blinded continuous glucose monitoring system for outcome assessment. In addition to this, one further study is still awaiting classification, and will be screened to determine whether it is eligible for inclusion, or is to be excluded, in an update of this review.

Authors' conclusions

No studies were included in the review, indicating that there is currently insufficient evidence to determine the impact of insulin therapy guided by CGMS compared to insulin therapy guided by other forms of glucose data collection on the lives of people with CFRD, nor on potential adverse effects of continuous glucose monitoring in this context. Randomised controlled studies are needed to generate evidence on the efficacy and safety of continuous glucose monitoring in people with CFRD. There is one relevant ongoing study that may be eligible for inclusion in a future update of this Cochrane Review, and whose results may help answer the review question.

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See also

Toner A, McCloy A, Dyce P, Nazareth D, Frost F. Continuous glucose monitoring systems for monitoring cystic fibrosisâ€•related diabetes. Cochrane Database of Systematic Reviews 2021, Issue 11. Art. No.: CD013755. DOI: 10.1002/14651858.CD013755.pub2. Accessed 29 December 2021.7

Keywords

Diabetes Mellitus; Gastrointestinal Diseases; Pancreatic Diseases; non pharmacological intervention - diagn; diagnostic procedures; Continuous glucose monitoring systems;