Other Reviews - - Other Review

Systematic review of the dry powder inhalers colistimethate sodium and tobramycin in cystic fibrosis (Provisional abstract)

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

systematic review

List of included studies

Chronic Pseudomonas aeruginosa in cystic fibrosis

Participants

Cystic fibrosis patients with chronic Pseudomonas aeruginosa

Interventions

Two dry powder formulations, colistimethate sodium and tobramycin

Outcome measures

Relevant outcomes included rate and extent of microbial response (e.g. sputum density of P. aeruginosa), lung function (e.g. forced expiratory volume in 1 s (FEV1)), frequency, severity of acute exacerbations and adverse events.

Main results

Three trials were included, and both dry powder formulations were reported to be non-inferior in the short term to nebulised tobramycin for FEV1. However, long-term follow-up data were missing and the effect on exacerbation rates was not always reported. Whilst short-term results showed that both dry powder drugs were non-inferior to nebulised tobramycin, there was no long-term follow-up and no phase 3 trials compared nebulised and dry powder colistimethate sodium. The use of FEV1 as the primary end-point may not accurately represent changes in lung health.

Authors' conclusions

This review illustrates the difficulty in assessing new technologies where the evidence base is poor.

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See also

Database of Abstracts of Reviews of Effects

Keywords

Anti-Bacterial Agents; Bacterial Infections; colistimethate; Colistin; Infection; Inhalation OR nebulised; nebuliser; non pharmacological intervention - devices OR physiotherapy; pharmacological_intervention; Powders; Pseudomonas aeruginosa; Pseudomonas; Respiratory Tract Diseases; Respiratory Tract Infections; other anti-bacterial agents; Tobramycin; Aminoglycosides;