Other Reviews - - Other Review

Inhaled antibiotics for the treatment of chronic Pseudomonas aeruginosa infection in cystic fibrosis patients: challenges to treatment adherence and strategies to improve outcomes.

Code: PM26937178 **Year:** 2016 **Date:** 2016 **Author:** Bodnar R

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

Systematic literature review

Participants

Publications about adherence to inhaled antibiotics in CF patients with chronic Pseudomonas aeruginosa infection

Interventions

Inhaled tobramycin, colistimethate, levofloxacin, aztreonam lysine.

Outcome measures

adherence to inhaled Abs

Main results

The search yielded 193 publications, of which ten met the inclusion criteria and underwent data extraction. Seven studies focused on inhaled tobramycin, one on inhaled colistimethate, one on inhaled levofloxacin, and one on inhaled aztreonam lysine. Medication adherence to inhaled ABs was analyzed by pharmacy refill history, daily phone diary, parent and child self-reports, vials counting, or electronic monitoring. In randomized controlled trials (n=3), proportion of adherent patients (>75%-80% of required doses taken) ranged from 86% to 97%; in prospective cohort studies (n=3), adherence rates ranged between 36% and 92%, and in retrospective studies (n=4) it ranged between 60% and 70%. The adherence to inhaled ABs in CF was found to be associated with the complexity of treatment, time of drug administration, age of patients, treatment burden (adverse events, taste), and patient satisfaction.

Authors' conclusions

The high diversity of adherence data was because of the different study designs (randomized controlled trials vs real-world studies) and the lack of a commonly accepted consensus on the definition of adherence in the reviewed articles. Routine adherence monitoring during CF care, discussing the possible reasons of suboptimal adherence with the patient, and changing treatment regimens on the basis of patient burden can individualize CF therapy for patients and may improve the level of adherence.

http://dx.doi.org/10.2147/PPA.S53653

See also

Patient Prefer Adherence. 2016 Feb 16;10:183-93. doi: 10.2147/PPA.S53653. eCollection 2016.

Keywords

Anti-Bacterial Agents; Bacterial Infections; Infection; Inhalation OR nebulised; Intranasal; nebuliser; non pharmacological intervention - devices OR physiotherapy; ological_intervention; Pseudomonas aeruginosa; Pseudomonas; Respiratory Tract Diseases; Respiratory Tract Infections; Aztreonam; Colistin; levofloxacin; Tobramycin; Exacerbation; Staphylococcus aureus; Aminoglycosides; Monobactams; Cephalosporins; Quinolones; other anti-bacterial agents;