primary studies - published RCT

Comparison of low, medium, and high carbohydrate formulas for nighttime enteral feedings in cystic fibrosis patients.

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

randomized single-blind parallel design study

Participants

39 patients with obstructive airways disease who experienced an acute exacerbation and required hospitalization for therapy. Two patients were excluded. Mean (SD) age of the 37 patients was 60 plus or minus 18 years. Nineteen patients had chronic obstructive pulmonary disease, 15 had asthma, and 3 had cystic fibrosis. On day 2, patients received either inhaled normal saline (placebo) or inhaled albuterol.

Interventions

On Day 1, inhaled bronchodilator (BD) therapy . On Day 2 , inhaled normal saline (placebo) or inhaled albuterol.

Outcome measures

On Day 1, outcomes to evaluate the responses in breathlessness and lung function were measured before and after treatment. On Day 2, the same outcomes were measured before and after the two different treatments. Main outcomes were ratings of breathlessness provided by the patient on the 0 to 10 category scale and spirometry-forced vital capacity (FVC) and volume exhaled in the first second of FVC (FEV1).

Main results

On Day 1, inhaled albuterol caused significant increases in both FVC and FEV1 and a significant reduction in the perception of breathlessness. On Day 2, there were no significant changes in the outcome variables with inhaled normal saline, whereas inhaled albuterol produced bronchodilation and a reduction in the perception of breathlessness. There was no significant correlation (r(s) = 0.26, p = 0.12) between the changes in FEV1 and the changes in ratings of breathlessness following treatment with inhaled BD. Most patients (62%) hospitalized for an exacerbation of obstructive airway disease reported some relief of breathlessness with inhaled albuterol.

Authors' conclusions

Because no significant relationship between improvement in spirometry and reduction in breathlessness was evident, it may be important to assess the patient's level of breathlessness along with physiologic variables to gain a more comprehensive assessment of the response to inhaled BD therapy.

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See also

JPEN J Parenter Enteral Nutr. 1990 Jan-Feb;14(1):47-52.

Keywords

Adult; Bronchodilator Agents; Inhalation OR nebulised; pharmacological_intervention; Salbutamol; Exacerbation; Respiratory Tract Infections; Infection; Bacterial Infections; Albuterol; Adrenergic beta-Agonists; Respiratory System Agents; Respiratory Tract Diseases;