

primary studies - published RCT

Effect of glucose to fat ratio on energy substrate disposal in children with cystic fibrosis fed enterally.

Code: PM10601537

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

Randomised, cross-over study.

Participants

10 CF patients(age 9 to 21 years).

Interventions

Single dose 20 mg sodium cromoglycate and beta agonist with: 1. ultrasonic nebuliser; 2. jet nebuliser.

Outcome measures

Treatment time. Residual volume of medication in nebuliser. Excreted sodium cromoglycate in urine up to 12 hours post-dose

Main results

Using the ultrasonic nebulizer, the amount of SCG excreted in urine was significantly greater than that after inhalation with the jet nebulizer (1.43 +/- 0.47 mg vs. 1.04 +/- 0.47 mg; $p = 0.002$), despite the larger residual volume in the ultrasonic nebulizer. The absorption half-life for SCG following ultrasonic nebulization was significantly shorter when compared with jet nebulization (84 +/- 14 min vs. 101 +/- 19 min; $p = 0.005$), being suggestive of a more peripheral deposition. Furthermore, an inverse relationship was found between absorption half-life and FEV(1) (% pred.) ($r = -0.655$, $p = 0.04$) or MMEF(75/25) (% pred.) ($r = -0.844$, $p = 0.031$), but only with the ultrasonic nebulizer.

Authors' conclusions

The ultrasonic nebulizer tested when used for inhalation in CF patients was found to be at least equivalent to the jet nebulizer.

[http://dx.doi.org/10.1016/S0261-5614\(98\)80027-7](http://dx.doi.org/10.1016/S0261-5614(98)80027-7)

See also

Clin Nutr. 1999 Oct;18(5):297-300.

Keywords

Inhalation OR nebulised; non pharmacological intervention - devices OR physiotherapy; nebuliser; Adrenergic beta-Agonists; Bronchodilator Agents; Respiratory System Agents; pharmacological_intervention;