

primary studies - published RCT

# The effects of the inhaled corticosteroid budesonide on lung function and bronchial hyperresponsiveness in adult patients with cystic fibrosis.

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**Author:** van Haren EH

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

Randomised 4-way cross-over design

## Participants

Mean age = 22.1 years, range 19 years to 28 years (SD 3.8 years) n = 10 Males = 7 Females = 3. FEV1 % predicted 52.0% SD 6.7 range 31 to 84%

## Interventions

HS 12% single dose (treatment group 3) Pre-treated with nebulised salbutamol 5 mg HS 3% single dose (treatment group 1) HS 7% single dose (treatment group 2) Voluntary cough and IS combined as the control Each participant took part in each arm

## Outcome measures

Sputum isotope % clearance at 30 minutes Sputum isotope clearance at 90 minutes\* Mucociliary clearance\*

## Main results

Neither mannitol nor HS improved BMC during the actual intervention period compared with their respective controls. However during the post-intervention measurement there was a significant improvement in BMC for both the mannitol (8.7+/-3.3% versus 2.8+/-0.7%) and HS (10.0+/-2.3% versus 3.5+/-0.8%). There was also a significant improvement in cough clearance with the Mannitol (9.7+/-2.4%) compared with its control (2.5+/-0.8%). Despite premedication with a bronchodilator, a small fall in forced expiratory volume in one second (FEV1) was seen immediately after administration of both the mannitol (7.3+/-2.5%) and HS (5.8+/-1.2%). Values of FEV1 returned to baseline by the end of the study.

## Authors' conclusions

Inhaled mannitol is a potential mucoactive agent in cystic fibrosis patients. Further studies are required to establish the optimal dose and the long-term effectiveness of mannitol.

[http://dx.doi.org/10.1016/0954-6111\(95\)90249-X](http://dx.doi.org/10.1016/0954-6111(95)90249-X)

## See also

Respir Med. 1995 Mar;89(3):209-14.

## Keywords

Adolescent; Adult; hydration; Hypertonic Solutions; Inhalation OR nebulised; Mannitol; pharmacological\_intervention; Airway clearance drugs -expectorants- mucolytic- mucociliary-; Respiratory System Agents;