

primary studies - published RCT

Chest physiotherapy with positive airway pressure: a pilot study of short-term effects on sputum clearance in patients with cystic fibrosis and severe airway obstruction.

Code: PM17005060

Year: 2006 **Date:** 2010

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

3-year triple-blind randomised controlled trial

Participants

65 children with CF without *P aeruginosa* infection.

Interventions

Intervention consisted of 3-monthly 3-week treatments with oral ciprofloxacin and inhaled colistin or both placebo controls.

Outcome measures

The primary outcome was *P aeruginosa* infection. Secondary outcomes were serum anti-*Pseudomonas* antibodies, pulmonary function, exacerbations, chest x-ray scores, inflammation parameters, respiratory pathogens and antimicrobial resistance.

Main results

There was no difference in acquisition of *P aeruginosa* infection between the control and treatment groups (annual incidence 14% vs 11%; HR 0.738, 95% CI 0.299 to 1.822). Anti-*Pseudomonas* antibodies emerged earlier in the control group, but this difference had disappeared after 3 years. Chronic infection was observed in 19% of controls and 12% of treated patients. Decline in pulmonary function and other clinical outcomes did not differ between the two groups. In the treatment group, significantly fewer Gram-positive bacteria and Enterobacteriaceae were observed but there were more non-*P aeruginosa* non-fermentative Gram-negative bacteria.

Authors' conclusions

Three-monthly cycled anti-*P aeruginosa* prophylaxis does not reduce the risk of initial and chronic infection in *P aeruginosa*-negative children with CF of all ages. Shifts in bacterial colonisation demand caution.

<http://www.rcjournal.com/contents/10.06/10.06.1145.pdf>

See also

Respir Care. 2006 Oct;51(10):1145-53.

Keywords

Adolescent; Anti-Bacterial Agents; Bacterial Infections; Child; Infant; Infection; Newborn; pharmacological_intervention; prevention; *Pseudomonas aeruginosa*; *Pseudomonas*; Respiratory Tract Diseases; Respiratory Tract Infections; Inhalation OR nebulised; Oral; Ciprofloxacin; Colistin; Quinolones; other anti-bacterial agents;