primary studies - published RCT

Inhaled ceftazidime compared with gentamicin and carbenicillin in older patients with cystic fibrosis infected with Pseudomonas aeruginosa.

Code: PM3311119 **Year:** 1987 **Date:** 1987 **Author:** Stead RJ

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

Partially blinded. 3-period cross-over design. Placebo control.

Participants

All had persistent P. aeruginosa on sputum culture. Mean baseline FEV1 1.29 (0.53) L. 18 participants (12 male). Age range 13 - 41 years. Criteria for diagnosis of CF were clinical features and sweat sodium more than 70 mmol/L.

Interventions

Ceftazidime 1 g or placebo (3.5% saline) twice daily for 4 months.

Outcome measures

Lung function (FEV1, FVC, PEF), exacerbations (admission to hospital for IV antibiotics), sputum bacteriology, sputum volume, and participant preference.

Main results

Mean peak expiratory flow on ceftazidime, 299 litres/min, and on gentamicin and carbenicillin, 297 litres/min, were greater than on saline, 278 litres/min (P less than 0.02 and P less than 0.05 respectively). Similarly mean forced expiratory volume in 1 second on ceftazidime, 1.70 litres, and on gentamicin and carbenicillin, 1.70 litres, were greater than on saline, 1.48 litres (P less than 0.02 and P less than 0.01 respectively). Mean forced vital capacity on gentamicin and carbenicillin, 2.93 litres, was also greater than on saline (P less than 0.05). We were unable to demonstrate any difference in efficacy between the antibiotic regimens. The patients were admitted to hospital less frequently during the study year compared with the previous year (P less than 0.05). Sixty-nine per cent of patients had a clinically significant (20%) increase in forced expiratory volume in 1 second on an antibiotic regimen compared with that on entry to study, but a minority of patients appear not to respond to this form of treatment.

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See also

Br J Dis Chest. 1987 Jul;81(3):272-9.

Keywords

Adolescent; Adult; Anti-Bacterial Agents; Bacterial Infections; carbenicillin; Ceftazidime; Combined Modality Therapy; Gentamicin; Infection; Inhalation OR nebulised; pharmacological_intervention; Pseudomonas aeruginosa; Pseudomonas; Respiratory Tract Diseases; Respiratory Tract Infections; Penicillins; Cephalosporins; Aminoglycosides;