primary studies - published RCT

Quantitative chest computerized tomography and FEV1 equally identify pulmonary exacerbation risk in children with cystic fibrosis.

Code: PM30160050 **Year:** 2018 **Date:** 1985 **Author:** Sanders DB

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

open randomised trial

Participants

50 patients with cystic fibrosis who had persisting pulmonary infection with Pseudomonas species and who developed acute exacerbations of respiratory symptoms.

Interventions

The ceftazidime and gentamicin were given every eight hours and the carbenicillin every six hours. The mean total daily doses were 151 mg/kg for ceftazidime, 6.3 mg/kg for gentamicin and 450 mg/kg for carbenicillin. The mean duration of treatment was 10 days in patients receiving gentamicin and carbenicillin and 12 days in those receiving ceftazidime.

Outcome measures

sputum culture, clinical outcomes, adverse events

Main results

Of the patients with pseudomonas in the initial sputum specimen in whom sputum was cultured after treatment, six (26%) of 23 receiving gentamicin and carbenicillin and seven (18%) of 39 receiving ceftazidime had sputum free from pseudomonas at the end of treatment, but recolonisation occurred subsequently. In those receiving ceftazidime all 10 coexisting organisms were eliminated, whereas only four of seven coexisting organisms in patients receiving gentamicin and carbenicillin were eliminated. Overall clinical improvement occurred in 25 (78%) of 32 patients treated with gentamicin and carbenicillin and 48 (96%) of 50 patients treated with ceftazidime. Nineteen (59%) of the patients receiving gentamicin and carbenicillin but only 15 (30%) of those receiving ceftazidime required admission to hospital or intravenous antibiotics, or both, or died during the three months after treatment. Side effects in both groups were similar, mild, and infrequent. Thrombophlebitis occurred in four patients treated with gentamicin and carbenicillin but in no patients treated with ceftazidime.

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See also

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Keywords

Adolescent; Adult; Anti-Bacterial Agents; Bacterial Infections; carbenicillin; Ceftazidime; Child; Gentamicin; Infection; pharmacological_intervention; Pseudomonas aeruginosa; Pseudomonas; Respiratory Tract Diseases; Respiratory Tract Infections; colonization; Exacerbation; Penicillins; Cephalosporins; Aminoglycosides;