

primary studies - published RCT

Evaluation of quantitative PCR for early diagnosis of Pseudomonas aeruginosa infection in cystic fibrosis: a prospective cohort study.

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

RCT

Participants

10 patients admitted to the Pediatric Ward of the University of Virginia Medical Center with cystic fibrosis and recurrent acute lower respiratory tract infections with *P. aeruginosa* isolated from their sputa.

Interventions

The patients received 500 to 1,500 mg of cefsulodin every 6 hours by intravenous infusion for 10 to 22 days.

Outcome measures

plasma peak drug levels, MIC, levels of cefsulodin in sputa, weight, pulmonary function, arterial blood gas values, adverse effects

Main results

Mean peak drug levels in plasma after 500, 1,000, and 1,500 mg were 46, 71, and 90 mug/ml, respectively, and the mean minimal inhibitory concentration of all organisms was 7.5 mug/ml. Detectable levels of cefsulodin in sputa were found in approximately half of the random samples and ranged from 2 to 5 mug/ml. The clinical response was satisfactory in nine (90%) of the patients. One patient gained weight and had improved pulmonary function tests but showed no reduction in sputum production and no improvement in arterial blood gas values. In pulmonary function tests, four of five patients tested showed an average 43% increase in forced vital capacity after initiation of therapy and five of five had an average 51% increase in forced expired volume in 1 s. No adverse effects were observed.

<http://dx.doi.org/10.1016/j.cmi.2016.11.016>

See also

Clin Microbiol Infect. 2017 Mar;23(3):203-207. doi: 10.1016/j.cmi.2016.11.016. Epub 2016 Nov 27.

Keywords

Anti-Bacterial Agents; Bacterial Infections; Cefsulodin; Drug Administration Schedule; Infection; Intravenous; pharmacological_intervention; Pneumonia; Pseudomonas aeruginosa; Pseudomonas; Respiratory Tract Diseases; Respiratory Tract Infections; Cephalosporins;