



Long-term azitromycin treatment of cystic fibrosis patients with chronic *Pseudomonas aeruginosa* infection; an observational cohort study

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Abstract

Background

In cystic fibrosis (CF), chronic endobronchial infection with *Pseudomonas aeruginosa* is a serious complication. Macrolides can increase lung function and weight in patients, and reduce exacerbations.

Methods

In 2001, we introduced long-term, low-dose azithromycin (AZ) treatment as an integral part of our routine treatment of these patients. Our study is an observational cohort study of all CF patients with chronic *P. aeruginosa* infection in our CF center comparing clinical parameters of the patients 12 months prior to treatment with the same values during 12 months of treatment.

Results

45 patients (27 men, median age 29 years) completed 1-year treatment. Median weight increased from 63.1 kg in the pre-treatment period to 63.9 kg during treatment ($p=0.01$). Median slope of decline in lung function increased from pre-treatment FEV₁ -4.1% and FVC -3.0% to +0.8% ($p<0.001$) and +1.6% ($p=0.01$), respectively. 90% of sputum samples contained mucoid *P. aeruginosa* before treatment, decreasing to 81% during treatment ($p=0.003$). Median CRP decreased from 6.2 mmol/l to 5.8 mmol/l (ns).

Conclusion

Long-term, low-dose AZ treatment in adult CF patients with chronic *P. aeruginosa* infection is safe and reduces the decline in lung function, increases weight, and reduces the percentage of mucoid strains of *P. aeruginosa* in sputum samples.

Keywords: Azithromycin, Cystic fibrosis, *Pseudomonas aeruginosa*