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Effectiveness and safety of macrolides in cystic fibrosis patients: a meta-analysis and systematic review

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

Systematic review of RCTs

List of included studies (8)

Saiman 2010; Dogru 2009; Steinkamp 2008; Clement 2006; Rotschild 2005; Saiman 2003; Wolter 2002; Equi 2002

Participants

Patients with moderate to severe lung diseases associated with CF.

Interventions

Macrolides

Outcome measures

The primary efficacy outcome was the impact on the deterioration of lung function (changes in FEV1 and FVC). Safety outcomes included adverse events and mortality.

Main results

Eight RCTs (seven with azithromycin and one with clarithromycin) were found in the systematic review and six RCTs with azithromycin (654 patients) were included in the meta-analysis. Azithromycin treatment showed a significant increase in FEV1% (3.22%, 95% CIâ€Š=â€Š1.38â€“5.06, Pâ€Š=â€Š0.0006, I2â€Š=â€Š0%) and FVC% (3.23%, 95% CIâ€Š=â€Š1.62â€“4.85, Pâ€Š

Authors' conclusions

Conclusions Long-term use of azithromycin can improve lung function, especially for P. aeruginosa-colonized CF patients. There was no evidence of increased adverse events with azithromycin. More data are needed to verify the best azithromycin regimen and to evaluate other macrolides in CF patients.

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See also

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Keywords

Anti-Bacterial Agents; Bacterial Infections; Infection; Macrolides; pharmacological_intervention; Pseudomonas aeruginosa; Pseudomonas; Respiratory Tract Diseases; Respiratory Tract Infections; Staphylococcus aureus; Azithromycin; Anti-Inflammatory Agents; Anti-Inflammatory Agents - excl Steroids; Clarithromycin; Pneumonia;