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Abstract (poster session)

Beta-lactam plus aminoglycoside or fluoroquinolone combination versus beta-lactam monotherapy for *Pseudomonas aeruginosa* infections: a meta-analysis

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Objective: To compare the effectiveness and safety of beta-lactam combined with aminoglycoside or fluoroquinolones to that of Beta-lactam monotherapy for the treatment of *Pseudomonas aeruginosa* infections. **Methods:** We searched Scopus and PubMed and synthesized the outcomes of the individual studies in a meta-analysis. All types of studies that evaluated outcomes of patients with *P. aeruginosa* infections receiving treatment with Beta-lactams alone or in combination with an aminoglycoside or a fluoroquinolone were included. Patients with cystic fibrosis were excluded. **Results:** Nineteen articles (8 randomized controlled trials) were included (1721 patients with *P. aeruginosa* infections). Patients receiving combination therapy had no difference in mortality when compared with patients receiving Beta-lactam monotherapy either as definitive (RR 0.97, 95% CI 0.77-1.22) or as empirical treatment (1.02, 0.78-1.34). In the definitive treatment group no difference in mortality was found between monotherapy and combination for patients with bacteremia (0.95, 0.67-1.34) or severe infections (0.96, 0.75-1.24). Patients receiving definitive combination therapy had non-significant higher clinical cure when compared with patients receiving Beta-lactam monotherapy (1.36, 0.99-1.86). Higher clinical cure rate was observed for patients receiving empirical treatment with combination (1.23, 1.05-1.43). There was no difference in clinical cure neither for RCTs (1.29, 0.91-1.83) nor non-randomized studies (1.18, 0.97-1.45). **Conclusion:** No benefit in mortality was observed in patients receiving combination therapy for *P. aeruginosa* infections. A well designed multicentre randomized trial is warranted to address this important issue.