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Paper Poster Session
Clostridium difficile: epidemiology and risk factors

Clostridium difficile infections following systemic antibiotic administration in randomized controlled trials

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Background: Antibiotics have been the most important risk factor for *Clostridium difficile* infection (CDI). However, only data from non-randomized studies have been reviewed. We sought to evaluate the risk for development of CDI associated with the major antibiotic classes by analyzing data from randomized controlled trials (RCTs).

Material/methods: PubMed and Scopus were searched; references of selected RCTs were also hand searched. Eligible studies should have compared only one antibiotic versus another administered systemically. Inclusion of studies comparing combination of antibiotics was allowed only if the second antibiotic was the same or from the same class or if it was administered in the minority of patients.

Results: Only a minority of the selected RCTs (68/981, 6.6%) reported CDI episodes. Carbapenems were associated with more CDI episodes than fluoroquinolones (RR 2.44, 95% CI 1.32-4.49) and cephalosporins (2.22, 1.45-3.42) alone, but not penicillins (2.53, 0.87-7.41). Cephalosporins were associated with more CDIs than penicillins (2.13, 1.15-3.97) and fluoroquinolones (2.84, 1.60-5.06) alone. There was no difference in CDI frequency between fuoroquinolones and penicillins (1.34, 0.55-3.25). Finally, clindamycin was associated with more CDI episodes than comparator antibiotics (4.58, 1.17-17.83).

Conclusions: Data from RCTs showed that clindamycin and carbapenems were associated with more CDIs than other antibiotics.