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Controversy exists on whether the use of third-generation cephalosporins to treat infections caused by aAmpCampC inducible- organisms lead to increased rates of clinical failure and resistance. The objective of this study was to examine early clinical failure rates between patients receiving empiric third-generation cephalosporins or carbapenems for treatment of *Enterobacter* spp., *Serratia* spp., *Citrobacter* spp., or *Morganella morganii* infections.

This retrospective cohort study included patients with bloodstream and/or respiratory infections caused by ESCPM pathogens resistant to first-generation cephalosporins and susceptible to third-generation cephalosporins. The primary outcome of early clinical failure was compared between patients receiving empiric third-generation cephalosporins and carbapenems. To minimize the possibility of treatment selection bias, 1:1 nearest neighbor propensity score matching was performed.

Propensity score matching yielded 30 matched pairs. Early clinical failure occurred in 8 (26.7%) patients in the third-generation cephalosporin group and 9 (30%) in the carbapenem group ($p = 1.00$). Thirty-day mortality occurred in 4 (13.3%) patients in the third-generation cephalosporin group and 5 (16.7%) patients in the carbapenem group ($p = 1.00$). Thirty-day readmission occurred in 4 (13.3%) patients in the third-generation cephalosporin group and 3 (10%) patients in the carbapenem group ($p = 1.00$). Positive repeat cultures occurred in 3 (10.0%) patients in the third-generation cephalosporin group and 11 (36.7%) patients in the carbapenem group ($p = .03$).

Empiric therapy with third-generation cephalosporin did not result in a higher rate of early clinical failure than carbapenems for patients with bloodstream and/or respiratory infections caused by ESCPM pathogens."