Abstract

Objective: To evaluate the association between quinolone exposure and the emergence of carbapenem-resistant Klebsiella pneumoniae (CRKP) and to estimate CRKP-specific mortality. Methods: Case-case-control study implemented in a tertiary care institution. Three groups of patients were analyzed: 61 consecutive cases of infection with CRKP (Group I); 61 randomly chosen cases of patients infected with carbapenem-sensitive Klebsiella pneumoniae (CSKP; Group II); and 122 randomly chosen controls without CRKP or CSKP infection. Matching was based on the length of stay in intensive care unit and the date of bacterial isolation. An active search was performed for patients with CRKP and CSKP infection, and prospective cases were included in the study. We compared the results for Groups I and II against those for the controls by using two conditional logistic regression analyses that included infection as the dependent variable and controlled for time at risk and co-morbidities. Results: Exposure to quinolones was not associated with CRKP infection: no association was found in the analysis of CRKP with the controls (OR = 1.7; 95% CI: 0.2-6.5) or in the analysis of CSKP against the controls (OR = 0.6; 95% CI: 0.2-1.6). Use of carbapenems (OR = 3.3; 95% CI: 1.2-9.3) and colonization with CRKP (OR = 3.3; 95% IC: 1.2-9.3) were specific risk factors for infection with CRKP. Mortality associated with CRKP was 61.3%. Conclusion: No association was found between exposure to quinolones and infection with CRKP; however, colonization by CRKP and use of carbapenems are risk factors for infection with CRKP.

Keywords

Klebsiella pneumoniae, carbapenems, case-control studies, risk factors, quinolones.