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Salvage antibiotic therapy in infection caused by carbapenem-resistant *Klebsiella pneumoniae*: An expert opinion based on real life data

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Introduction & Aim: Life threatening infections caused by carbapenem resistant *Klebsiella pneumoniae* (CR-Kp) have increased dramatically in the last decade being associated with high mortality rate especially in patients from the intensive care units. Given that few therapeutic options are available, the optimal antimicrobial therapy for CR-Kp is not well established. The main objective of this study is to present an expert opinion on antibiotic rescue therapy adapted to local epidemiology of CR-Kp isolated from a tertiary hospital from Romania.

Methods: We performed a retrospective observational study on all *Klebsiella pneumoniae* strains isolated at the Carol Davila Central Military Emergency Hospital during January-July 2018. The final analysis included only CR-Kp phenotype. According to antibiogram results for the remaining available antibiotics considered as being susceptible at standard or increased dosing regimen we design an algorithm of salvage therapy for CR-Kp infections.

Results: A number of 519 isolates of *Klebsiella pneumoniae* has been included in the study, out of which 299 (57.6%) strains displayed resistance to carbapenems. Regarding the specimen type, majority of CR-Kp strains have been isolated from respiratory tract (34.7%), urinary tract (25.7%) and central venous catheter and blood (14.04%). The susceptibility profile for CR-Kp showed an individual susceptibility rate of about 91.3% for tigecycline, 29.4% for colistin, 15.7% for aminoglycosides (gentamicin and amikacin) and 5.3% for cotrimoxazole. Ceftazidime/avibactam has remained fully active in all cases of CR-Kp assessed by Etest.

Conclusion: Based on our epidemiology data, the back-bone for salvage antibiotic therapy in CR-Kp should be ceftazidime/avibactam alone or in combination with tigecycline or colistin or aminoglycosides and/or meropenem at higher doses, depending on the severity index and location of the primary source of infection.

Biography

Valeriu Gheorghita has completed his PhD at the age of 31 years from "Carol Davila" University of Medicine and Pharmacy from Bucharest, Romania. He also graduated the postdoctoral studies from "Carol Davila" University of Medicine and Pharmacy from Bucharest, Romania. He is Assistant Professor and Senior Physician in Infectious Diseases and currently works in Infectious Diseases Department of the Central Military University Emergency Hospital "Dr. Carol Davila", Bucharest. He has published more than 25 papers in reputed journals and has been serving as a speaker at many national and international conferences.

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