

Original Paper

Efficacy of Ciprofloxacin, Ceftizoxims and Carbenicillin on *Klebsiella* species isolated from hospital specimens

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Abstract

Background and Objective: *Klebsiella* species are gram-negative bacteria with positive voges proskauer (VP) reaction. *Klebsiella* species are found as commensal in human digestive and respiratory system. This group of organisms can create a serious health hazards in hospitalized patients, and their ability to drug resistance is a major health problems. This study was done to evaluate the efficacy of Ciprofloxacin, Ceftizoxims and Carbenicillin on *Klebsiella* species isolated from hospital specimens.

Materials and Methods: In this laboratory study, 1200 clinical samples were isolated from patients in Imam Khomeini hospital, Tehran, Iran. The identification *Klebsiella* species were carried out according to conventional biochemical tests. The minimum inhibitory concentration (MIC) of carbenicillin, ceftizoxime, and ciprofloxacin antibiotics were determined using Macrodilution broth test.

Results: Out of 1200 isolated samples, 25% were identified as *Klebsiella* species. 73% of identified *Klebsiella* were obtained from urine samples. *Klebsiella.pneumoniae* with rate of 94% was the most abundant among other species. The results of MIC and minimum bactericidal concentration by using standard microdilution method showed drug resistance range of 16-1024 µg/ml, 4-256 µg/ml and 0.25-16 µg/ml for carbenicillin, ceftizoxime, and ciprofloxacin, respectively. In general, 94%, 6% and 1% of species were resistance to carbenicillin, ceftizoxime and ciprofloxacin, respectively.

Conclusion: Ciprofloxacin and Ceftizoxime are suitable for the treatment of infections due to *Klebsiella* species.

Keywords: *Klebsiella*, Nosocomial infection, MIC, MBC, Ciprofloxacin, Ceftizoxime

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