

عنوان مقاله:

The Prevalence of VIM, IMP, and NDM-1 Metallo-beta-Lactamase Genes in Clinical Isolates of *Klebsiella pneumoniae* in Qom Province, Iran

محل انتشار:

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خلاصه مقاله:

Introduction: An increase in the consumption of antibiotics has raised significant concerns over the treatment of *Klebsiella pneumoniae*-infected patients. In this study, the resistance pattern of *K. pneumoniae* to antibiotics such as imipenem, meropenem, and ertapenem, as well as the frequency of Metallo-beta-lactamase (MBL) genes, namely VIM, IMP, and NDM-1 were investigated. **Methods:** Following the isolation of 200 *K. pneumoniae* isolates from 650 clinical samples, the antibiotic resistance pattern of these isolates against different antibiotics was evaluated. The isolates resistant to imipenem, meropenem, and ertapenem were identified, and the presence of VIM, IMP, and NDM-1 genes was examined by using PCR methods. **Results:** The *K. pneumoniae* isolates exhibited different resistance patterns in response to various antibiotics. The frequency of VIM, IMP, and NDM-1 genes showed that 48 strains are resistant to imipenem, meropenem, and ertapenem in which 15.6% was positive for IMP, 2.42% for VIM, and 1.92% positive for NDM-1 gene. The isolates showed the highest antibiotic resistance to ampicillin (97.5%) and the lowest to meropenem (5.5%). **Conclusion:** Considering carbapenem antibiotics such as imipenem, meropenem, and ertapenem which are known to be among the most frequently used antibiotics for the treatment of *K. pneumoniae* infections and the involvement of MBL genes in this scenario, we aimed to screen and identify MBL genes responsible for the resistance of *K. pneumoniae* to imipenem, meropenem, and ertapenem.

کلمات کلیدی:

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