

عنوان مقاله:

Tracing of New Delhi Metallo-Beta-Lactamase-1 (NDM-1)-producing *Klebsiella pneumoniae* among carbapenem resistant clinical isolates at a university hospital in Iran

محل انتشار:

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خلاصه مقاله:

Background: New Delhi metallo-beta-lactamase-1(NDM-1) is a novel type of metallo-beta-lactamase (MBL) which inactivates all β -lactam antibiotics except aztreonam. Enterobacteriaceae expressing NDM-1 have been identified worldwide. The aim of this study was to detect MBLs in carbapenem-resistant *K. pneumoniae* isolates obtained from patients hospitalized in one of the university hospitals in Isfahan, Iran. Methods: Of 112 isolates obtained from various clinical samples, 49 were selected for carbapenemase detection based on their reduced susceptibility to imipenem or meropenem according to the disc diffusion method. These isolates were screened for carbapenemase and MBL production using the Modified Hodge Test (MHT) and Epsilonometer test (E-test) MBL strips. Polymerase chain reaction (PCR) was performed on all 49 isolates using specific primers to detect genes encoding IMP (active on imipenem), VIM (Verona integron-encoded metallo- β -lactamase), SPM-1 (Sao Paulo metallo- β -lactamase) and NDM-1. Results: Among 49 carbapenem resistant isolates, 32 (65.3 %) were positive for MHT and 6 (12.2 %) were found positive for blaNDM-1. Other MBL genes were not detected. Conclusion: This is the second report on the detection of blaNDM-1 in Iran since it was first reported by Shahcheraghi and colleagues in 2012. This study indicated that resistance to carbapenems and isolation of bacteria producing NDM-1 is increasing. Therefore, the rapid detection of isolates expressing NDM-1 is essential to control their spread

کلمات کلیدی:

New Delhi metallo-beta-lactamase-1, *Klebsiella pneumoniae*, Carbapenem, Modified Hodge Test, Epsilonometer test

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