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ePoster Viewing

Molecular bacteriology

Emergence of NDM-1 producing *Acinetobacter pittii* isolated in a tertiary hospital in Korea

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Objectives: The New Delhi (NDM) metallo- β -lactamase (MBL) in *Acinetobacter pittii* has been recently reported in several parts of the world. However, NDM producing *A. pittii* has not been isolated in Korea so far. In this study, *bla*_{NDM} genes among *A. pittii* isolated in Daejeon of Korea from January 2006 to December 2013 were investigated.

Methods: Twenty-two ertapenem-resistant *A. pittii* isolates were screened by a disk diffusion method. Etest was performed to determine the minimal inhibitory concentrations (MICs) of 7 antibiotics. Polymerase chain reaction (PCR) and DNA sequencing were performed to identify the genes that potentially contribute to carbapenem resistance phenotype. Multilocus sequence typing (MLST) scheme was used to determine the sequence types (STs) for epidemiological study.

Results: Almost of all *A. pittii* isolates except one harbored MBL genes, either *bla*_{IMP-1} or *bla*_{NDM-1}. Nineteen isolates containing *bla*_{IMP-1} gene were all resistant to imipenem and meropenem, to which two isolates harboring *bla*_{NDM-1} genes were susceptible. STs of two NDM-1 producing *A. pittii* isolates were ST70 and ST207, which were different from 4 STs (ST63, ST119, ST396, and New type-1) of IMP-1 producing *A. pittii*. **Conclusion:** In this study, most ertapenem-resistant *A. pittii* isolates harbored MBLs, either IMP-1 or NDM-1. Especially, isolates containing *bla*_{NDM-1} genes were susceptible to imipenem and meropenem, while isoaltes with *bla*_{IMP-1} gene were not. Our study is the first report on emergence of NDM-1 producing *A. pittii* isolates in Korea. Our results emphasize that further study on NDM-1 producing *Acinetobacter* spp. should involve carbapenem-susceptible as well as carbapenem-resistant isolates.