Abstract (publication only)

**High rates of carbapenem resistance and mortality in patients with nosocomial Pseudomonas putida bacteraemia**

Objectives: Pseudomonas putida belongs to the fluorescent group of Pseudomonas species and has been recognized as a rare cause of bacteremia. This organism was considered to be a lower virulent pathogen. But, recently, multi-drug resistant and carbapenem-resistant P. putida have been emerged which caused difficult-to-treat nosocomial infections in seriously ill patients. However, the clinical data on the prevalence and mortality rates of carbapenem resistant P. putida infections are still lacking. Here, we investigated the antibiotic resistance rates of nosocomial P. putida blood isolates and clinical characteristics and mortality of P.putida bacteremia.

Methods: From January 2006 through September 2010 the cases of nosocomial P. putida bacteremia were collected by review of Clinical Microbiology Laboratory Records at Chonnam National University Hospital (1000-bedded) and Chonnam National University Hwasun Hospital (700 -bedded). During the study period 4 cases of P.putida bacteremia outbreak related to contaminated infusion fluid were confirmed, and this cases were excluded in this study. Medical records were retrospectively reviewed. Species identification and antibiotic susceptibility was determined by the VITEK 2 system (bioMérieux Inc., Hazelwood, MO, USA). Results: Four (31%) and five (39%) of 13 P. putida isolates were resistant to imipenem and meropenem, respectively. All of 13 P. putida isolates were susceptible to colistimethate. Eleven (84.6%) patients had indwelling devices related to primary infections. Common primary infection sites were ventilator-related pneumonia (6, 55%) and biliary tract (2, 18%). Single cases of necrotizing fasciitis, surgical site infection, peritonitis and central venous catheter-related infection were observed. Thirty-day mortality in patients with P. putida bacteremia was 54% (7/13): 60% (3/5) in patients with carbapenem-resistant P. putida bacteremia, but 50% (4/8) in patients with carbapenem-susceptible isolates. Three patients who received inappropriate antibiotic treatment because of carbapenem resistance were all died. Conclusion: Nosocomial infection of P. putida could show high rate of resistance to most potent beta-lactams, carbapenems, and it can cause significant morbidity and mortality for infected patients. So it is necessary to aware the fatality of nosocomia P. putida bacteremia and consider the early initiation of the susceptible antibiotic regimen such as colistimethate.