

中文題目：碳青霉烯類抗生素抗藥性肺炎克雷伯氏菌群突發於北台灣某區域教學醫院加護中心

英文題目：Carbapenem-resistant *Klebsiella pneumoniae* outbreak in intensive care unit of a regional teaching hospital of northern Taiwan

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**Background:** From February to March, 2012, there were six carbapenem-resistant *Klebsiella pneumoniae* nosocomial infection cases in the intensive care unit of a regional teaching hospital of northern Taiwan; four bacteremia, one urinary tract infection, and one pneumonia. After a series of interventions, outbreak ceased in April.

**Materials and Methods:** All CRKP cases received strict contact isolation and cohort care in the ICU. The strains had been sent to the central laboratory of CDC and confirmed positive for KPC gene. The KPC genes of few cases were identical with other strains from recent one medical center and one teaching hospital. Environment and crew surveillance were done as well as active surveillance with rectal swab for every ICU new patient. More prudent antibiotic stewardship by infection specialist was conducted.

**Results:** All six nosocomial CRKP infection cases were aged (mean 85 years old, 76-94), multiple underlying diseases (such as DM, chronic kidney disease, old stroke, and malignancy), prolonged ICU hospitalization (mean 26 days, 6-38), catheter-related (CVP in bacteremia, Foley catheter in UTI, and endotracheal tube in pneumonia), and receiving broad-spectrum antibiotics (2 with meropenem, others 3<sup>rd</sup>/4<sup>th</sup> generation cephalosprins). Two cases, one bacteremia and one pneumonia, died within one week of infection. Active surveillance for every ICU new patient showed sporadic CRKP carrier when they were admitted to the ICU. Strict catheter bundle care and contact isolation, prudent antibiotic stewardship were all conducted continuously. Environment and ICU crew surveillance in February showed no CRKP contamination during outbreak period. The last case occurred in the early March and no more case developed till the end of April.

**Conclusion:** Like MRSA or CRAB, CRKP has become one low-level prevalent multi-drug resistant bacteria in northern Taiwan. Because of its high resistance to nearly all beta-lactam antibiotics, physicians rarely could use correct antibiotic, such as tigecycline or colimycin, in the first step before culture report available. Early recognition of possible CRKP infection, such as ICU admission or previous broad-spectrum antibiotic exposure, is important.