

Tendency of the characteristics of durg-resistant and colonization of *Acinetobacter baumannii* in southern Taiwan in 2002-2005

Abstract:

The clinical and environmental isolates of *Acinetobacter baumannii* (AB) were collected with a large panel from 2002 to 2005. These isolates were respectively originated from blood specimens of septicemia patients and water conduits of Kaoshiung Veterans General Hospital. All isolates were identified by testing with biochemical and molecular diagnosis. In particularly, the environmental isolates had been identified with nucleotide sequences of 16S-23S RNA ITS to exclude the presences of other *A. calcoaceticus* - *A. baumannii* complex or unidentified AB-like bacteria. Subsequent to analysis of antibiotic susceptible test, these isolates divided into GR (general resistant), MDR (multiple drug-resistant) and PDR (pandrug-resistant) groups. Totally, 328 of GR-AB and 34 of MDR (or PDR)-AB were collected. All environmental isolates (n=25) were GR-AB group. The number of AB isolates from respiratory ward is greater than that from the other wards. All isolates were performed with molecular analysis for integron genes. Over 90% of isolates harbored int I gene but not harbor int II or int III gene. Almost strains had same antibiotic genes (Type IV) in the cassette of int I gene. However, the int I carrying with blaVIM-2 (carbapenemase gene) was found in the clinical isolates. The evidences in different patterns of RAPD (randomly amplified polymorphic DNA) and PFGE (Pulsed-field gel electrophoresis) profiling demonstrated that the MDR-AB was randomly distributed in wards of hospital not colonized in any certain wards. Also, the genotypes in MDR-AB were not correlated with those in environmental isolates. Nevertheless, the strains with RAPD cluster A profiling had been colonized in hospital in 2004. After 2004, the strains of MDR-AB with novel three distinct RAPD cluster profiling were increased, indicating that the origins of MDR-AB in hospital were multifarious and complicated

Key words: *Acinetobacter baumannii*; MDR-AB; integron