

R190

Publication Only

Antimicrobials: Epidemiology of MDR-Gram-negatives

Risk factors for prolonged colonisation with multidrug-resistant *Acinetobacter baumannii* in the respiratory tract

T. Kitazawa<sup>1</sup>, K. Seo<sup>1</sup>, Y. Wakabayashi<sup>1</sup>, S. Suzuki<sup>1</sup>, Y. Yoshino<sup>1</sup>, I. Koga<sup>1</sup>, Y. Ota<sup>1</sup>

<sup>1</sup>Internal Medicine, Teikyo University, Tokyo, Japan

**Objectives:** Multidrug-resistant *Acinetobacter baumannii* (MDRAB) is one of the important pathogens of hospital acquired infection. MDRAB colonization increases the risk of the spread in hospitals. One strategy for shortening the clinical colonization period has been considered as antibiotic use, although the impact of clinical factors including antibiotic use on prolongation of MDRAB colonization has not been investigated. We investigated clinical factors that were associated with prolongation of MDRAB colonization in the respiratory tract.

**Methods:** We enrolled all the patients from whose respiratory tract MDRAB were cultured twice or more from August 2009 to March 2012 in our hospital. Colonization period was defined as the number of days from the first detection of MDRAB through the first disappearance. A long term colonizer and a short term colonizer were defined as a patient whose colonization period is longer than 30 days, and 30 days or shorter, respectively. We excluded patients whom MDRAB colonized persistently until the patients died or they were lost to follow up within 30 days after the MDRAB acquisition. Clinical data were abstracted from medical records.

**Results:** We enrolled 34 patients. Among the 34 patients, 12 patients were excluded because of their death or lost to follow up. The median duration of MDRAB colonization in the remaining 22 patients was 17.5 days (range, 3-584 days). Long term colonizers were nine and short term colonizers were 13. Between the long term colonizers and the short term colonizers, the average leukocyte counts at the acquisition of MDRAB were not statistically different (11,500 /mm<sup>3</sup> vs 7,400 /mm<sup>3</sup>,  $p=0.14$ ). There was no difference between the two groups in the average numbers of used antibiotic classes (2.08 vs 1.56,  $p=0.47$ ), and in the durations of antibiotic use during 30 days after the MDRAB acquisition (15.3 days vs 16.8 days,  $p=0.80$ ). There was no difference between the two groups in the rate of central catheterization (30.7% vs 44.4%,  $p=0.66$ ), and in that of mechanical ventilation (30.7% vs 11.1%,  $p=0.28$ ). During 30 days after the MDRAB acquisition, the long term colonizers were more frequently co-colonized with *Neisseria species* than the short colonizers (53.8% vs 11.1%,  $p=0.01$ ), although not before the colonization of MDRAB (38.4% vs 11.1%,  $p=0.33$ ). The 90 day MDRAB colonization rates for *Neisseria* negative patients and *Neisseria* positive patients were 10.0% and 83.3%, respectively ( $p=0.004$ ). There was no difference in co-colonization with other bacteria between the two groups both before the MDRAB colonization and during 30 days after the MDRAB acquisition.

**Conclusion:** Prolonged MDRAB colonization in the respiratory tract was associated with *Neisseria species* co- colonization, but not with use of antibiotics and medical devices.