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The risk factors and spread of multidrug-resistant *Acinetobacter baumannii* in intubated patients in a medical intensive care unit

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
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**Abstract:** Aim: *Acinetobacter baumannii* is one of the most common causes of ventilator-associated pneumonia in intensive care units. The aim of this study was to determine the risk factors for colonization in the respiratory tract and infection with *A. baumannii* in a medical intensive care unit (MICU), and to examine the genetic link between strains and the spread of isolates. Materials and methods: This study was conducted prospectively between 1 December 2004 and 31 January 2006 in the MICU. Patients (> 16 years old) admitted to the MICU that were mechanically ventilated and/or intubated were enrolled in the study. Results: Ninety-eight patients were evaluated for *A. baumannii* colonization during or at the end of their intubation; 44 (45%) of these patients were colonized by *A. baumannii*. The length of intubation (OR: 1.032, P = 0.014) and diabetes mellitus (OR: 4.140, P = 0.008) were the major risk factors for colonization of the respiratory tract by *A. baumannii*. During the study period *A. baumannii* infection developed in 35 (80%) of the 44 colonized patients. The important risk factors for *A. baumannii* infection were colonization (OR: 3.962, P = 0.006) and tracheostomy (OR: 4.857, P = 0.001). Genotyping analysis was performed for 59 isolates. Overall, 3 clones (clone A, B, and C) were identified in patients; 88% were clone A (52 isolates), 7% were clone B (4 isolates), and 5% were clone C (3 isolates). Conclusion: Length of intubation and diabetes mellitus were significant risk factors for *A. baumannii* colonization in intubated patients. Moreover, colonization and tracheostomy predisposed patients to infection. Additionally, this study documented the spread of multi-drug resistant *A. baumannii* in intubated patients in an MICU with limited resources.

**Key words:** *Acinetobacter*, intensive care unit, colonization, infection control

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