**Acinetobacter baumannii** bacteraemia during Intensive Care Unit stay: risk factors and predictors of mortality

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**Background**

*Acinetobacter baumannii* provokes serious infections especially in critically ill patients, resulting to high mortality. The objective was to study the epidemiology, associated risk factors and outcome of *A. baumannii* bacteraemic, Intensive Care Unit (ICU) hospitalized patients.

**Material/methods**

*A. baumannii* isolates from bacteraemic critically ill patients hospitalized in two ICUs of Patras, Greece, were evaluated during a 26-month period. Antibiotic susceptibility testing was performed by the agar disk diffusion method according to CLSI guidelines. MIC was determined by the Etest (bioMerieux). Epidemiologic data were collected from the ICU computerized database and patients’ chart reviews. Statistical analysis was performed with SPSS ver. 19.0, as appropriate.

**Results**

Among 363 ICU patients, 43 (12%) bacteraemic episodes were attributed to *A. baumannii*. All isolates were multi-resistant, whereas, 38 (89%) were resistant to carbapenems, 38 (89%) to gentamicin, and 31 (72%) to tigecycline (figure 1). All strains were susceptible to colistin. Diabetes mellitus (*P* 0.043; OR 2.2; 95% CI 1.0-4.9), KPC-producing *K. pneumoniae* bacteraemia (*P* 0.043; OR 2.3; 95% CI 1.0-5.0) and KPC-producing *K. pneumoniae* enteric colonization (*P* 0.026; OR 2.7; 95% CI 1.1-6.5) were independently associated with *A. baumannii* bacteraemia. The 30-day mortality rate was 44% (19 patients). The multivariate analysis revealed that SAPS II at onset of infection (*P* 0.013; OR 1.2; 95% CI 1.0-1.3) and septic shock (*P* 0.035; OR 22.3; 95% CI 1.2-399.6) were all significantly and independently associated with *A. baumannii* BSI mortality. Colistin and vancomycin co-administration (*P* 0.030; OR 0.047; 95% CI 0.003-0.739) was identified as a predictor of good prognosis. Figure 2 depicts the Kaplan-Meier curve of survival probability according to administration of colistin with or without vancomycin.

**Conclusions**

There was a high percentage of *A. baumannii* bacteraemia, with an increased 30-day mortality. Co-morbidities and KPC-producing *K. pneumoniae* colonization and bacteraemia predispose to *A. baumannii* bacteraemia. Outcome of *A. baumannii* bacteraemia is improved by colistin and vancomycin administration.