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**Objectives:** To evaluate epidemiology and outcomes of hospitalized patients with nosocomial pneumonia (NP) due to *Pseudomonas aeruginosa* who developed *P. aeruginosa* bacteraemia.

**Methods:** This international, medical record abstraction study collected data on 662 hospitalized patients with a clinical diagnosis of NP (hospital-associated pneumonia, ventilator-associated pneumonia, and health care-associated pneumonia) due to *P. aeruginosa*. Chi-squared tests for categorical variables and 1-way analysis of variance or Kruskal-Wallis tests for continuous variables were used to examine differences between patients who developed bacteraemia versus those who did not.

**Results:** 27% of the cohort developed bacteraemia due to *P. aeruginosa* during hospitalization; mean (standard deviation) time to development of bacteraemia from initiation of antibiotic therapy for NP was 3 (9) days. Compared with patients who did not develop bacteraemia, patients with bacteraemia were less likely to have prior exposure to antimicrobials, were less likely to have ventilator-associated pneumonia, more likely to have health care-associated pneumonia, and had more comorbidities on admission. Hospitalization in the 6 months before the index admission, rates of intensive care unit admission, and presence of multiple drug-resistant (MDR) *P. aeruginosa* pulmonary infections were similar in both groups. In-hospital mortality was significantly higher among patients with bacteraemia; median length of stay for survivors was shorter but not statistically significant.

**Conclusion:** Patients with *P. aeruginosa* bacteraemia were sicker at baseline and were more likely to die during hospitalization; the inability to predict development of bacteraemia presents a therapeutic challenge in the treatment of patients with NP.

**Table 1. Characteristics of Patients With Nosocomial Pneumonia Due to *Pseudomonas aeruginosa*, With or Without Bacteraemia During Hospitalization**

Variable		Bacteraemia (N=176)	No Bacteraemia (N=486)
Age (years)	Mean (SD)	59 (15)	59 (17)
Hospitalized in prior 6 months	n/N' (%)	95/164 (58%)	236/405 (58%)
Antimicrobials in prior 30 days*	n/N' (%)	58/143 (41%)	167/321 (52%)
Ventilator-associated pneumonia*	n (%)	47 (27%)	279 (57%)
Charlson Comorbidity Index*	Median (IQR)	4 (4)	2 (3)
Multiple drug resistance (pulmonary culture)	n (%)	49 (29%)	165 (34%)
Length of stay for survivors (days)	Median (IQR)	30 (41)	34 (41)
Died during hospitalization*	n (%)	80 (45%)	171 (35%)

\*  $P < .05$  Note: for variables with a significant number of missing values, the denominator (N') for percentages is indicated.