

Impact of Appropriate Empirical Antibiotic Therapy on Clinical Outcome in Patients with *Acinetobacter Baumannii* Bacteremia

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Background

In this study, it was aimed to evaluate risk factors and impact of appropriate empirical antimicrobial therapy (AEAT) in patients followed up in intensive care units (ICUs) with *A. baumannii* on 30-day mortality and clinical outcome.

Methods

A retrospective study was conducted at a 1100-bed tertiary care center. Patients over 18 years old with *A. baumannii* bacteremia in ICUs between 2009 and 2013 were enrolled into study. Patients with positive blood culture for *A. baumannii* and clinical findings supporting infection were defined as infected.

AEAT was defined as initiation of at least one antimicrobial agent in appropriate dose and route to which the *A. baumannii* strain was susceptible before susceptibility results were known.

Results

During study period 88 patients with *A. baumannii* bacteremia were enrolled. AEAT initiation rate was 23.1%. Overall and 30 day mortality was 63.6% and 46.5% respectively (Table 1). In AEAT group, overall and 30-day mortality were significantly lower (%43.5-%70.8 [p=0.019]; %21.7-%55.3 [p=0.05]). Survivors had lower APACHE II, SOFA, CCI scores (p<0.05).

Older age, previous hospitalization in 90 days, presence of septic shock and central venous catheter (p=0.044) were significantly related with higher mortality (p<0.05). Carbapenem administration was correlated with higher survival rate in 30th day (p=0.014).

Colistin, tigecycline, meropenem and amikacin resistance rates were 0%, 5.7%, 83.3%, 46% respectively.

Conclusion

In this 5 year cohort, initiation rate of AEAT was very low. AEAT was associated with lower mortality rates.

Table 1. Various features of patients

	All patients (n=88)	AEAT (n=65)	IEAT (n=23)	P
Male gender	55 (62,5)	39 (60)	16 (69,6)	0,415
Age	59,6±17,9	59,9±18,2	58,4±17,2	0,506
Length of stay	53,4±52,6	47,6±44,7	69,9±69,1	0,416
APACHE II	23,2±8,2	23,9±8,2	21±8,2	0,315
SOFA	9,8±4,7	9,8±4,8	9,8±4,7	0,938
CCI	4,1±3,1	4,2±3,2	3,9±2,9	0,45
Overall mortality	56 (63,6)	46 (70,8)	10 (43,5)	0,019
30-day mortality	41 (46,5)	36 (55,3)	5 (21,7)	0,05

AEAT; Appropriate Empirical Antimicrobial Therapy, IEAT; Inappropriate Empirical Antimicrobial Therapy, APACHE II; Acute Physiology and Chronic Health Evaluation II score, SOFA; Sequential Organ Failure Assessment score, CCI; Charlson Comorbidity Index