

The Diagnostic Value of Scoring Systems in Predicting Bacteremia and The Mortality Rate of Patients with The Signs of Infection in Intensive care units

e-mail: tunademirdal@hotmail.com
tel. +90 232 2434343

Pinar SEN¹, Tuna Demirdal¹, Atakan NEMLI¹, Mehmet KIZILKAYA²

1. Izmir Katip Celebi University Faculty of Medicine Ataturk Training and Research Hospital *Department of Infectious Diseases and Clinical Microbiology*

2. Izmir Katip Celebi University Faculty of Medicine Ataturk Training and Research Hospital *Department of Anesthesiology and Reanimation*

Background

In this study, it is aimed to evaluate the mortality rates and the role of scoring systems on predicting bacteremia in patients with SIRS, sepsis and septic shock.

Methods

A prospective study was conducted on patients with SIRS, sepsis and septic shock in intensive care unit at a tertiary care center between December 2014-July 2015. Definitions were used according to the Surviving Sepsis Campaign, International Guideline, 2012. Scoring systems were calculated on the day of admission. The scoring systems were compared to predict bacteremia and mortality.

Results

A total of 156 patients were enrolled in the study. The study group was consisted of 64 (41 %) bacteremic patients and 92 (59%) non-bacteremic control group. SIRS, sepsis and septic shock were defined in 17 (10.9%), 69 (44.2%) and 70 (44.9%) patients, respectively. The overall mortality rate was found 60.3% (94/156) and 79 (50.6%) of them died within the first 28 days of follow-up. There were no significant differences in terms of overall mortality between the study and control groups (p=0.418), but the 28 day mortality rate of bacteremic patients was significantly higher than the control group (p=0.002).

The mean age of mortal patients (64.6±13.7) were significantly higher than the survivors (54.4±18.8) (p=0.001). Mortality rates were not significantly different in terms of mean age between the two groups for the first 28 days of follow-up (p=0.262). APACHEII, SOFA and Charlson-comorbidity index scores were similar between the two groups. However, mean score values were significantly higher in mortal cases (p<0.05) (Table 1).

Conclusion

The reported mortality rates attributed to sepsis are still high as in our intensive care unit. Scoring systems may be good predictors of mortality, however they don't seem to have a role in predicting bacteremia.

Table 1. The comparison of scoring systems in bacteremia and mortality

	BACTEREMIA				p
	No	Yes	No	Yes	
	Mean±SD	Min.-Max.	Mean±SD	Min.-Max.	
Charlson Index	5.4±3.6	0-15	5.4±3.5	0-12	0.830
APACHEII	24.5±8.9	4-42	24.5±8.9	4-40	0.891
SOFA	9.1±4.3	0-21	9.4±4.1	0-17	0.804
MORTALITY					
	No	Yes	No	Yes	p
	Mean.±SD	Min.-Max.	Mean.±SD	Min.-Max.	
Charlson Index	4.5±3.9	0-15	6±3.1	0-13	0,006
APACHE II	19.3±8.1	4-35	27.9±7.6	9-42	0,000
SOFA	7.2±4.2	0-18	10.6±3.6	0-21	0,000