1082. Impact of Vancomycin Minimum Inhibitory Concentration on Clinical Outcome of Methicillin-Susceptible *Staphylococcus aureus* Bacteremia

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Background. Recent data suggest that vancomycin minimum inhibitory concentration (MIC) is related with the outcome of not only methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia but methicillin-sensitive *S. aureus* (MSSA) bacteremia. We aimed to evaluate the effect of vancomycin MIC on clinical outcome of MSSA bacteremia.

Methods. We analyzed a prospectively collected cohort of patients with MSSA bacteremia at a 2700 bed tertiary-care hospital in South Korea from August 2008 to March 2010. Patients with vancomycin MIC ≥1.5 μg/ml by E-test is classified as high vancomycin MIC group. We compared the clinical features and outcomes of high vancomycin MIC group with those of low vancomycin MIC group.

Results. A total of 149 episodes of MSSA bacteremia was analyzed. Seventy-two (48%) patients was high vancomycin MIC group. Accessory gene regulator (*Agr*) type II and III is more frequent in high vancomycin MIC group. High vancomycin MIC (OR 2.7, 95% CI 1.259–6.094, p = 0.011) and age (OR 1.03; 95% CI 1.002–1.059, p = 0.036) is independent risk factor for all-cause mortality at 12 weeks.

Conclusion. Higher vancomycin MIC is related with mortality in patients with MSSA bacteremia. Further studies are needed to understand a relationship vancomycin MIC and *agr* system.

	Total (n = 149)	MIC <1.5 μg/ml (n = 77)	MIC ≥1.5 μg/ml (n = 72)	*P* value
Mean age	57.2 ± 14.9	57.7 ± 15.7	56.6 ± 14.2	0.67
Male gender, number (%)	99 (66.4)	53 (68.8)	46 (63.9)	0.52
Site of acquisition				
Community	29 (19.5)	17 (22.1)	12 (16.7)	0.40
Healthcare	50 (33.6)	26 (33.8)	24 (33.3)	0.96
Hospital	70 (47)	34 (44.2)	36 (50)	0.48
***agr* subgroup**				
agr type I	83 (55.7)	42 (54.5)	41 (56.9)	0.768
agr type II	24 (16.1)	8 (10.4)	16 (22.2)	0.050
agr type III	34 (22.8)	23 (29.9)	11 (15.3)	0.034
agr type IV	3 (2)	2 (2.6)	1 (1.4)	>0.999
***agr* dysfunction**	17 (11.4)	11 (14.3)	6 (8.3)	0.253
ST188	29/148 (19.6)	13/76 (17.1)	16/72 (22.2)	0.433
ST72	15/148 (10.1)	10/76 (13.2)	5/72 (6.9)	0.279
Clinical outcome				
Persistent bacteremia	6 (4.1)	5 (6.5)	1 (1.4)	0.21
Recurrence within 12 weeks	3 (2)	0	3 (4.2)	0.11
Mortality at discharge	28 (18.8)	9 (11.7)	19 (26.4)	0.02
Mortality at day 7	5 (3.4)	1 (1.3)	4 (5.6)	0.15
Mortality at day 28	28 (18.8)	10 (13)	18 (25)	0.06
Mortality at week 12	38 (25.5)	13 (16.9)	25 (34.7)	0.01
Bacteremia-related mortality at discharge	17 (11.4)	6 (7.8)	11 (15.3)	0.15
Bacteremia-related mortality at week 12	21 (14.1)	6 (7.8)	15 (20.8)	0.02

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