

Introduction

Persistent *S. aureus* bacteremia (PSAB) is associated with high rates of morbidity and mortality. The aim of our study was to evaluate the predictors of PSAB and its influence on related mortality.

Materials and Methods

Episodes of SAB were prospectively registered and retrospectively studied from 2006 to 2011 in a 700 beds university hospital. Persistent bacteremia was defined as the isolation of *S. aureus* in a blood culture obtained after 48-72 hours of appropriate antibiotic treatment. Patients who died within the first 48 hours were excluded from the analysis. Risk factors for persistent bacteremia and for mortality were analyzed performing an univariate and multivariate analysis.

Results

Clinical characteristics of patients with PSAB

n= 514	No persistent SAB n=397 (%)	Persistent SAB n=117 (%)	P
Age, mean years (±SD)	64.1 (49.7-75.8)	65.5 (49.9-73.3)	0.516
Male gender	258 (65)	79 (67.5)	0.612
Community Acquired	99 (24.9)	43 (36.8)	0.012
Ultimately/Finally fatal underlying disease	173 (43.6)	47 (40.5)	0.558
Previous admission	77 (19.4)	18 (15.4)	0.326
Diabetes mellitus	95 (23.9)	40 (34.2)	0.027
COPD	41 (10.3)	10 (8.5)	0.571
Cardiomyopathy	99 (24.9)	35 (29.9)	0.281
Liver cirrhosis	56 (14.1)	13 (11.1)	0.404
Renal failure	48 (12.1)	21 (17.9)	0.102
Hemodialysis	13 (3.3)	11 (9.4)	0.006
Hematological cancer	30 (7.6)	3 (2.6)	0.053
Solid organ cancer	63 (15.9)	13 (11.1)	0.203
Neutropenia < 500	13 (3.3)	0	0.047
Prior steroid therapy	62 (15.6)	20 (17.1)	0.859
Septic shock	30 (7.6)	12 (10.3)	0.349
MRSA	86 (21.7)	32 (27.4)	0.199
30 d-Septic metastases	34 (8.6)	25 (21.4)	<0.0001
Related mortality	39 (9.8)	26 (22.2)	<0.0001

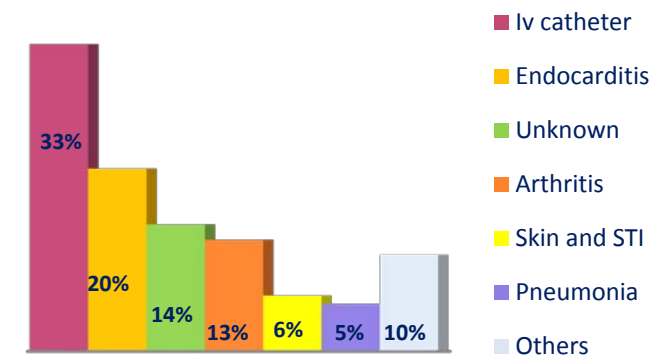
Significant factors associated with 7-d mortality in univariate analysis

n= 514	Exitus n= 65 (%)	No exitus n= 449 (%)	P
Age, mean years (±SD)	71.6 (58-81.2)	63.4 (49.1-74)	0.002
Community acquired	24 (36.9)	118 (26.3)	0.073
Ultimately/Finally fatal underlying disease	39 (60)	181 (40.4)	0.003
Diabetes mellitus	25 (38.5)	110 (24.5)	0.017
Septic shock	15 (23.1)	27 (6)	<0.0001
MRSA	21 (32.3)	97 (21.6)	0.055
Persistent bacteremia	26 (40)	91 (20.3)	<0.0001
Pneumonia	7 (10.8)	23 (5.1)	0.085
IV catheter	17 (26.2)	202 (45)	0.004
Endocarditis	12 (18.5)	29 (6.5)	0.001
Incorrect empirical atb	19 (29.2)	84 (18.7)	0.036
30 d-Septic metastases	17 (26.2)	42 (9.4)	<0.0001

Risk factors for related mortality

	OR	95% CI	P
Age	1.03	1.007-1.047	0.008
Incorrect empirical antibiotic	2.03	1.035-3.997	0.039
Underlying disease	2.33	1.284-4.228	0.005
Persistent bacteremia	2.52	1.364-4.640	0.003
Septic metastases	3.57	1.719-7.396	0.001
Shock	5.00	2.305-10.832	<0.0001

Most common sources of PSAB



Risk factors for PSAB

	OR	95% CI	P
Arthritis	4.33	2.017-9.310	<0.0001
Endocarditis	6.11	3.100-12.022	<0.0001
Abdominal abscess	7.155	1.549-33.056	0.012

Conclusions

In order to increase survival of patients with SAB, it is essential to assure an appropriate empirical antibiotic and to improve SAB management for reducing the number of days of persistent bacteremia.