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Epidemiology and microbiology of nosocomial bloodstream infections: analysis of 482 cases from a retrospective surveillance study

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Key words: nosocomial bloodstream infections, Traditional Chinese Medicine hospital, epidemiology, microbiology

The incidence of nosocomial bloodstream infections (nBSIs) in different studies

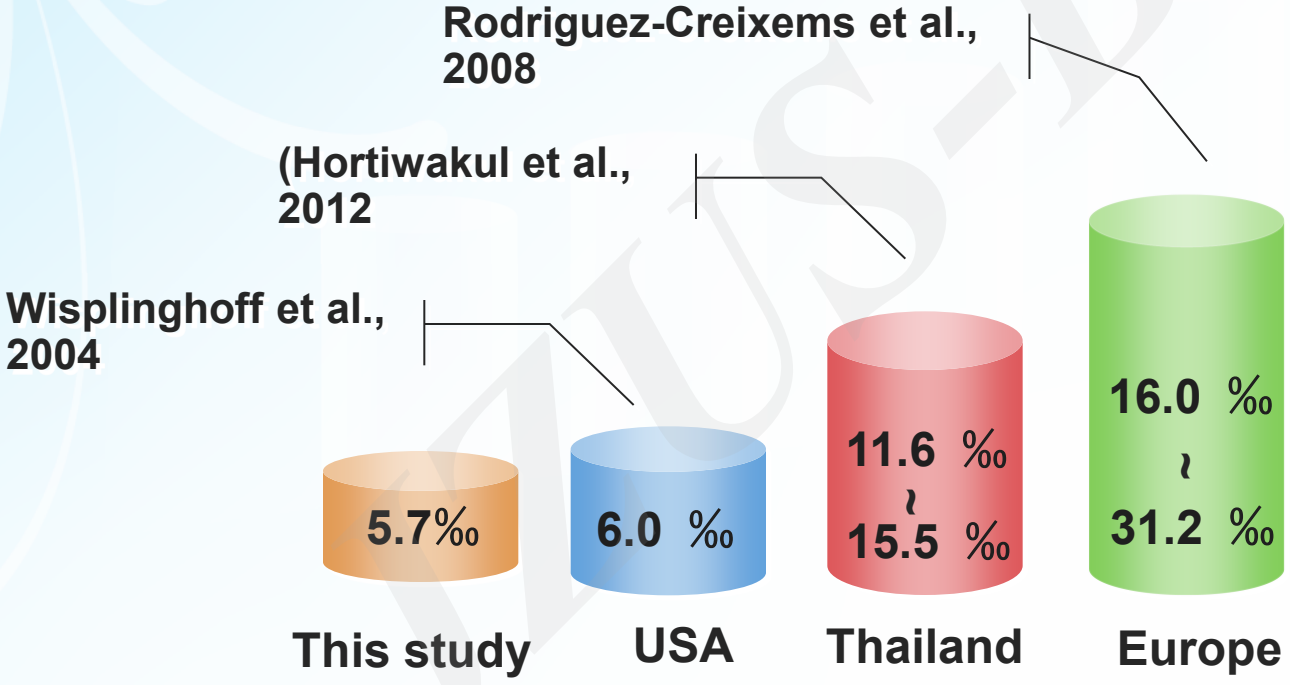

Table 1 Patient characteristics of the 482 patients with nBSIs

parameter	No. (%)
Patient demographics	
Age (yr: mean±SD)	62.96 ± 21.4
Male	267 (55.4)
nBSIs distribution	
ICU	127 (26.3)
Hematology	108 (22.4)
Oncology	80 (16.6)
Others	167 (34.6)
Underlying diseases	
Solid tumor	124 (25.7)
Hematological malignancy	104 (21.6)
Gastroenterology	53 (10.6)
Neurologic	43 (8.9)
Respiratory	36 (7.5)
Cardiovascular	29 (6.0)
Renal	16 (3.3)
Invasive operation	
Central venous catheter	382 (79.3)
Urinary catheter	229 (47.5)
Ventilator	126 (26.1)
Surgery	87 (18.0)
Organisms	
Gram-negative	298 (61.82)
Gram-positive	162 (33.61)
Fungi	22 (4.57)
10-d Antimicrobial drugs	479 (99.4)
Appropriate empirical therapy	157 (32.6)
28-d mortality	81 (16.8)

Table 6 Multivariate logistic regression analysis of mortality at 28-d

Risk factors	Adjusted odds ratio (95% CI)	P value
Septic shock	2.77(1.27 to 6.02)	0.010
Central venous catheter	2.37(0.71 to 7.92)	0.161
Urinary catheter	1.75(0.79 to 3.87)	0.167
Ventilator	0.77(.23 to 2.52)	0.664
Hemodialysis	3.29(1.30 to 8.34)	0.012
Parenteral nutrition	1.44(0.72 to 2.87)	0.300
Appropriate empirical therapy	0.23(0.10 to 0.56)	0.001
Pitt bacteremia score		
0-1	1	
2-4	0.45(0.11 to 1.82)	0.261
>4	12.88(5.583 to 29.70)	<0.001
Source of infection		
Central venous catheter	1	
Abdominal infection	1.07(.47 to 2.45)	0.872
Urinary tract infection	11.12(2.97 to 41.71)	<0.001
Pulmonary infection	0.29(0.08 to 1.02)	0.053
Others or unknown	2.47(0.87 to 7.05)	0.090

Main Conclusions

1. The incidence of nBSIs was low in the TCM hospital but the proportion of nBSIs due to antibiotic-resistant organisms requires more attention

2. A high Pitt bacteremia score was identified as one of the most important risk factors for mortality in nBSIs.

3. Adequate empirical therapy is independently associated with decreased mortality in patients with nBSIs.

4. Efficient control methods are needed to decrease antibiotic drug resistance and to ensure patients receive effective treatment.