

**Table S1.** Causative microorganisms of infective endocarditis

	<b>Total (N=419)</b>	<b>(%)</b>
<i>Streptococcus</i> species	147	35.1
<i>Staphylococcus aureus</i>		
MSSA	37	8.8
MRSA	29	6.9
<i>Enterococcus</i> species	36	8.6
Coagulase negative staphylococci	32	7.6
Gram negative bacilli except HACEK	11	2.6
Candida species	4	1.0
HACEK	2	0.5
Others	11	2.6
Culture negative infective endocarditis	110	26.3

MSSA: methicillin susceptible *Staphylococcus aureus*; MRSA: methicillin resistant *Staphylococcus aureus*; HACEK: *Haemophilus* species, *Aggregatibacter* species, *Cardiobacterium hominis*, *Eikenella corrodens*, and *Kingella* species

**Table S2.** Univariate analysis for in-hospital mortality of infective endocarditis

	Patients who survived (N=358)	Patients who died (N=61)	p-value
<b>Demographics</b>			
Age, years	54.0 (40.5 - 66.0)	68.0 (54.0 - 72.0)	<0.001 <sup>#</sup>
Age ≥ 65	103 (28.8)	35 (57.4)	<0.001 <sup>*</sup>
Male sex	236 (65.9)	39 (63.9)	0.973 <sup>*</sup>
Nosocomial infection	64 (17.9)	27 (44.3)	<0.001 <sup>*</sup>
<b>Comorbidities</b>			
Previous infective endocarditis	16 (4.5)	5 (8.2)	0.217 <sup>+</sup>
Previous valve surgery	68 (19.0)	15 (24.6)	0.311 <sup>*</sup>
Cardiac device	16 (4.5)	3 (4.9)	0.747 <sup>+</sup>
Diabetes	56 (15.6)	21 (34.4)	<0.001 <sup>*</sup>
Congestive heart failure	18 (5.0)	11 (18.0)	<0.001 <sup>*</sup>
Chronic pulmonary disease	2 (0.6)	1 (1.6)	0.378 <sup>+</sup>
Renal disease	25 (7.0)	18 (29.5)	<0.001 <sup>*</sup>
Liver disease	20 (5.6)	7 (11.5)	0.085 <sup>*</sup>
Haemodialysis	12 (3.4)	11 (18)	<0.001 <sup>*</sup>
Cancer	41 (11.5)	13 (21.3)	0.034 <sup>*</sup>
Haematologic malignancy	4 (1.1)	1 (1.6)	0.547 <sup>+</sup>
Transplantation	1 (0.3)	0 (0.0)	>0.999 <sup>+</sup>
Connective tissue disease	12 (3.4)	3 (4.9)	0.467 <sup>+</sup>
Immunosuppressive therapy	14 (3.9)	4 (6.6)	0.314 <sup>+</sup>
Chemotherapy within 30 days	11 (3.1)	4 (6.6)	0.251 <sup>+</sup>
Antibiotics treatment within 30 days	52 (14.5)	22 (36.1)	<0.001 <sup>*</sup>
Central venous catheter access	23 (6.4)	9 (14.8)	0.024 <sup>*</sup>
<b>Clinical symptoms and signs</b>			
Fever	265 (74)	45 (73.8)	0.967 <sup>*</sup>
Left ventricular dysfunction	118 (33.0)	23 (37.7)	0.469 <sup>*</sup>
Sepsis including septic shock	247 (69.0)	47 (77.0)	0.204 <sup>*</sup>
Neurologic complications	102 (28.5)	27 (44.3)	0.014 <sup>*</sup>
Peripheral embolic complications	27 (7.5)	8 (13.1)	0.146 <sup>*</sup>
Signs of peripheral vasculitis	8 (2.2)	1 (1.6)	>0.999 <sup>+</sup>
Definite diagnosis	277 (77.4)	49 (80.3)	0.608 <sup>*</sup>
<b>Laboratory findings</b>			
Segmented neutrophil, %	78.5 (69.3 - 84.8)	85.3 (76.2 - 90.0)	<0.001 <sup>#</sup>
Red blood cell distribution width, %	14.2 (13.3 - 15.5)	15.1 (13.9 - 16.4)	0.004 <sup>#</sup>
Hemoglobin, g/dL	11.0 (9.7 - 12.4)	9.8 (8.8 - 11.0)	<0.001 <sup>#</sup>
Platelet count, 10 <sup>3</sup> /uL	211 (145 - 295)	173 (88 - 212)	<0.001 <sup>#</sup>
BUN, mg/dL	14.6 (10.9 - 21.6)	28.4 (16.4 - 41.0)	<0.001 <sup>#</sup>
Creatinine, mg/dL	0.9 (0.7 - 1.1)	1.3 (0.9 - 2.9)	0.011 <sup>#</sup>
Albumin, g/dL	3.4 (2.9 - 3.8)	2.8 (2.5 - 3.1)	<0.001 <sup>#</sup>
Total bilirubin, mg/dL	0.6 (0.4 - 0.9)	0.8 (0.5 - 1.3)	0.004 <sup>#</sup>
C-reactive protein, mg/L	42.6 (9.2 - 88.3)	49.9 (14.5 - 113.5)	0.128 <sup>#</sup>
SOFA score	1.0 (1.0 - 2.0)	3.0 (1.0 - 4.5)	<0.001 <sup>#</sup>
APACHE II score	6.0 (3.0 - 8.0)	9.0 (7.0 - 11.5)	<0.001 <sup>#</sup>
Charlson comorbidity index	2.0 (0.0 - 4.0)	4.0 (2.0 - 8.0)	<0.001 <sup>#</sup>
<b>Affected valve</b>			
Prosthetic valve	50 (14.0)	13 (21.3)	0.138 <sup>*</sup>
Aortic valve	144 (40.2)	37 (60.7)	0.003 <sup>*</sup>

Mitral valve	224 (62.6)	33 (54.1)	0.209*
Tricuspid valve	27 (7.5)	7 (11.5)	0.298*
Pulmonary valve	15 (4.2)	1 (1.6)	0.486 <sup>+</sup>
Multiple valve	54 (15.1)	16 (26.2)	0.031*
<b>Microorganisms</b>			
Culture positivity	261 (72.9)	48 (78.7)	0.288*
Coagulase negative staphylococci	25 (7.0)	7 (11.5)	0.222*
<i>Staphylococcus aureus</i>	48 (13.4)	18 (29.5)	0.001*
MSSA	28 (7.8)	9 (14.8)	0.078*
MRSA	20 (5.6)	9 (14.8)	0.009*
<i>Enterococcus</i> species	30 (8.4)	6 (9.8)	0.920*
<i>Streptococcus</i> species	134 (37.4)	13 (21.3)	0.018*
HACEK	2 (0.6)	0 (0.0)	>0.999 <sup>+</sup>
Gram negative bacilli except HACEK	10 (2.8)	1 (1.6)	0.703 <sup>+</sup>
Candida species	2 (0.6)	2 (3.3)	0.103 <sup>+</sup>
<b>Surgery performed</b>	<b>254 (70.9)</b>	<b>20 (32.8)</b>	<b>&lt;0.001*</b>

SOFA: sequential organ failure assessment; APACHE: acute physiology and chronic health evaluation; LVEDD: left ventricular end-diastolic diameter; LVESD: left ventricular end-systolic diameter; MSSA: methicillin susceptible *Staphylococcus aureus*; MRSA: methicillin resistant *Staphylococcus aureus*; HACEK: *Haemophilus* species, *Aggregatibacter* species, *Cardiobacterium hominis*, *Eikenella corrodens*, and *Kingella* species

Data are presented as median (interquartile range) or number (%) of patients, unless otherwise indicated.

# Mann-Whitney U-test

\*  $\chi^2$  test

<sup>+</sup> Fisher's exact test

**Table S3.** Multivariable logistic regression analysis\* to identify independent risk factors for in-hospital mortality of infective endocarditis

	Multivariable analysis	
	OR (95% CI)	p-value
Surgery performed	0.25 (0.13–0.50)	<0.001
Aortic valve	3.18 (1.63–6.19)	0.001
<i>Staphylococcus aureus</i>	2.32 (1.11–4.85)	0.026
Neurologic complications	1.98 (1.07–3.69)	0.031
SOFA score	1.22 (1.03–1.45)	0.023
Charlson comorbidity index	1.11 (1.02–1.22)	0.019
Nosocomial infection	1.59 (0.79–3.22)	0.196

CI: confidence interval; OR: odds ratio; SOFA: sequential organ failure assessment

\* Analysis after checking interaction effect between surgery performed and Charlson comorbidity index or SOFA score