

SUPPLEMENTARY FILES

Supplementary Table 1. Demographic, clinical, microbiology and echocardiographic characteristics of patients with definite endocarditis according to management strategy

Variable	Surgery			Medical Therapy			Medical Therapy (Surgical Turndown)		
	(n = 137)			(n = 45)			(n = 14)		
	Pre-ET (n = 74)	Post-ET (n = 63)	P- value	Pre-ET (n = 21)	Post-ET (n = 24)	P- value	Pre-ET (n = 6)	Post-ET (n = 8)	P- value
Age (years)	55.9±14.0	58.8±16.2	0.27	54.0±14.0	50.8±19.7	0.52	64.8±19.4	67.3±15.9	0.81
Male	49 (66.2)	50 (79.4)	0.13	15 (71.4)	17 (70.8)	1.00	3 (50.0)	6 (75.0)	0.58
Diabetes mellitus	12 (16.2)	10 (15.9)	1.00	2 (9.5)	3 (12.5)	1.00	0 (0)	2 (25.0)	0.20
EuroSCORE II	11.5±10.8	13.6±10.4	0.25	10.8 ± 10.0	10.3 ± 9.2	0.86	16.9 ± 8.9	17.3 ± 9.9	0.94
Biochemical results^a									
Serum eGFR (ml/min)	67.0±26.2	66.8±22.9	0.69	68.5±23.4	60.8±30.7	0.49	62.0±33.0	59.9±29.1	0.90
Serum Hb (g/dL)	91.3±34.0	90.3±35.9	0.88	94.6±27.4	89.6±22.1	0.51	82.5±37.2	83.8±31.8	0.95
Serum neutrophils (x10 ⁹ /L)	8.9±5.4	8.4±5.2	0.60	9.2±4.6	7.1±4.6	0.13	10.8±6.1	9.8±6.6	0.78
Serum CRP (mg/L)	93.1±68.6	100.1±76.5	0.58	103.7±61.8	97.3±97.6	0.80	61.0±39.3	179.7±148.0	0.08
Predisposition to IE									
Cardiac disease ^b	22 (29.7)	17 (27.0)	0.85	7 (33.3)	7 (29.2)	1.00	1 (16.7)	2 (25)	1.00
Intravenous drug abuse	5 (6.8)	5 (7.9)	1.00	4 (19.0)	3 (12.5)	0.69	1 (16.7)	1 (12.5)	1.00
History of IE	7 (9.5)	6 (9.5)	1.00	3 (14.3)	3 (12.5)	1.00	0 (0)	0 (0)	-
Intervention (12 months) ^c	16 (21.6)	11 (17.5)	0.67	4 (19.0)	3 (12.5)	0.69	1 (16.7)	0 (0)	0.43
Vegetation Localisation									
AV	28 (37.8)	25 (39.7)	0.87	8 (38.1)	12 (50.0)	0.52	3 (50.0)	1 (12.5)	0.43

AV + aortic root	8 (10.8)	5 (7.9)	0 (0)	0 (0)	1 (16.7)	3 (37.5)			
MV	24 (32.4)	19 (30.2)	4 (19.0)	5 (20.8)	1 (16.7)	3 (37.5)			
AV + MV	5 (6.8)	7 (11.1)	2 (9.5)	1 (4.2)	0 (0)	0 (0)			
TV	6 (8.1)	4 (6.3)	4 (19.0)	3 (12.5)	1 (16.7)	1 (12.5)			
AV + MV + TV	2 (2.7)	3 (4.8)	0 (0)	0 (0)	0 (0)	0 (0)			
Pacemaker lead	1 (1.4)	0 (0)	0 (0)	2 (8.3)	0 (0)	0 (0)			
No vegetation	0 (0)	0 (0)	3 (14.3)	1 (4.2)	0 (0)	0 (0)			
Valve type									
Native	53 (71.6)	46 (73.0)	1.00	13 (61.9)	16 (66.7)	1.00	5 (83.3)	6 (75.0)	1.00
Prosthetic	16 (21.6)	15 (23.8)		5 (23.8)	5 (20.8)		1 (16.7)	2 (25)	
Native and Prosthetic	3 (4.1)	1 (1.6)		1 (4.8)	1 (4.2)		0 (0)	0 (0)	
Causative organisms									
Blood culture positive	60 (81.1)	58 (92.1)	0.08	16 (76.2)	20 (83.3)	0.71	6 (100)	7 (87.5)	1.00
Viridans group streptococci	14 (18.9)	9 (14.3)	0.78	0 (0)	0 (0)	1.00	0 (0)	0 (0)	1.00
Streptococcus gallolyticus	6 (8.1)	3 (4.8)		0 (0)	0 (0)		0 (0)	0 (0)	
Staphylococcus aureus	19 (25.7)	15 (23.8)		4 (19.0)	9 (37.5)		1 (16.7)	3 (37.5)	
Enterococci	5 (6.8)	6 (9.5)		2 (9.5)	3 (12.5)		2 (33.3)	2 (25.0)	

Data shown as mean \pm standard deviation or number (percentage). ^aadmission values;

^brheumatic disease, prosthetic valve or valve repair; ^cdental or surgical interventions within the past 12 months. AV, aortic valve; CRP, C-reactive protein; ET, endocarditis team; IE, infective endocarditis; MV, mitral valve; TV, tricuspid valve.

Supplementary Table 2: Timing of Surgery

	Pre-ET (n = 74)		Post-ET (n = 63)		Difference in Compliance (%)	P-Value
	Indication n (% of total)	Compliance with Timing Indication n (%)	Indication n (% of total)	Compliance with Timing Indication n (%)		
Emergency indication (within 24 hours)	13 (17.6)	9 (61.5)	9 (14.3)	8 (88.9)	27.4	0.36
Urgent indication (within a few days)	30 (40.5)	19 (63.3)	29 (46.0)	25 (86.2)	22.9	0.001
Elective indication (after at least 1-2 weeks of antibiotic therapy)	31 (41.9)	31 (100)	25 (39.7)	25 (100)	0	-
All patients	74 (100)	59 (79.7)	63 (100)	58 (92.1)	12.4	0.05

Data shown as number (percentage). ET, endocarditis team.

Supplementary Table 3. Univariate analysis of mortality in the medical management group

Variable	In-hospital mortality			1 year mortality		
	Hazard Ratio	95% CI	P-value	Hazard Ratio	95% CI	P-value
Age (years)	1.01	0.96 – 1.06	0.76	1.02	1.00 – 1.05	0.11
Male	0.84	0.14 – 5.01	0.85	0.68	0.28 – 1.67	0.40
Diabetes mellitus	3.39	0.35 – 32.56	0.29	1.62	0.36 – 7.19	0.53
EuroSCORE II	1.38	0.47 – 4.04	0.56	1.28	0.44 – 4.31	0.56
Serum eGFR (ml/min) ^a	0.98	0.95 – 1.01	0.26	0.99	0.97 – 1.01	0.39
Serum haemoglobin (g/dL) ^a	1.01	0.97 – 1.05	0.81	0.99	0.98 – 1.01	0.46
Serum neutrophils (x10 ⁹ /L) ^a	1.16	1.00 – 1.33	0.05	1.09	1.01 – 1.09	0.03
Serum CRP (mg/L) ^a	1.00	0.99 – 1.01	0.84	1.00	1.00 – 1.01	0.35
Predisposing cardiac disease ^b	0.03	0 – 67.27	0.36	1.28	0.51 – 3.21	0.60
Intravenous drug abuse	0.04	0 – 1109.78	0.53	1.36	0.45 – 4.07	0.58
History of IE	0.04	0 – 2396.12	0.57	1.79	0.60 – 5.37	0.30
Intervention (12 months) ^c	1.43	0.16 – 12.82	0.75	1.65	0.48 – 5.65	0.43
AV	0.91	0.15 – 5.43	0.92	0.98	0.40 – 2.41	0.97
MV	0.87	0.10 – 7.79	0.90	0.74	0.25 – 2.20	0.58
Left valve	1.51	0.17 – 13.54	0.71	1.01	0.37 – 2.79	0.98
Right valve	0.04	0 – 357.21	0.48	1.13	0.38 – 3.39	0.83
Native	1.89	0.21 – 16.93	0.57	0.65	0.27 – 1.59	0.35
Blood culture positive	0.11	0.02 – 0.64	0.01	0.28	0.10 – 0.73	0.01
Staphylococcus aureus	0.51	0.06 – 4.53	0.54	0.77	0.30 – 2.02	0.61

Immunological phenomena	0.04	0 – 24731.34	0.64	0.55	0.07 – 4.11	0.56
Acute stroke	4.15	0.69 – 24.93	0.12	5.06	1.94 – 13.21	0.001
Other emboli	0.55	0.06 – 4.94	0.60	1.47	0.60 – 3.60	0.40
Congestive cardiac failure	0.05	0 – 8.77E+9	0.82	0.05	0 – 2807.55	0.59
Uncontrolled Sepsis	1.98	0.33 – 11.85	0.46	1.67	0.67 – 4.20	0.27
Renal failure ^d	0.04	0 – 6454.05	0.60	1.01	0.23 – 4.34	1.00
Time to first TTE	0.86	0.59 – 1.23	0.40	0.99	0.93 – 1.04	0.60
Time to TOE following TTE	0.79	0.42 – 1.52	0.48	1.09	0.81 – 1.28	0.71
Time to IE specific antibiotics	0.97	0.83 – 1.14	0.72	1.01	0.95 – 1.06	0.83
Duration of stay	0.98	0.90 – 1.07	0.66	1.01	1.00 – 1.01	0.09
ET	0.57	0.10 – 3.40	0.54	0.38	0.16 – 0.95	0.04

Data shown as mean \pm standard deviation or number (percentage). ^aadmission values;

^brheumatic disease, prosthetic valve or valve repair; ^cdental or surgical interventions within the past 12 months; ^drenal failure requiring renal replacement therapy. AV, aortic valve;

CRP, C-reactive protein; ET, endocarditis team; IE, infective endocarditis; MV, mitral valve;

TOE, transoesophageal echocardiogram; TTE, transthoracic echocardiogram.

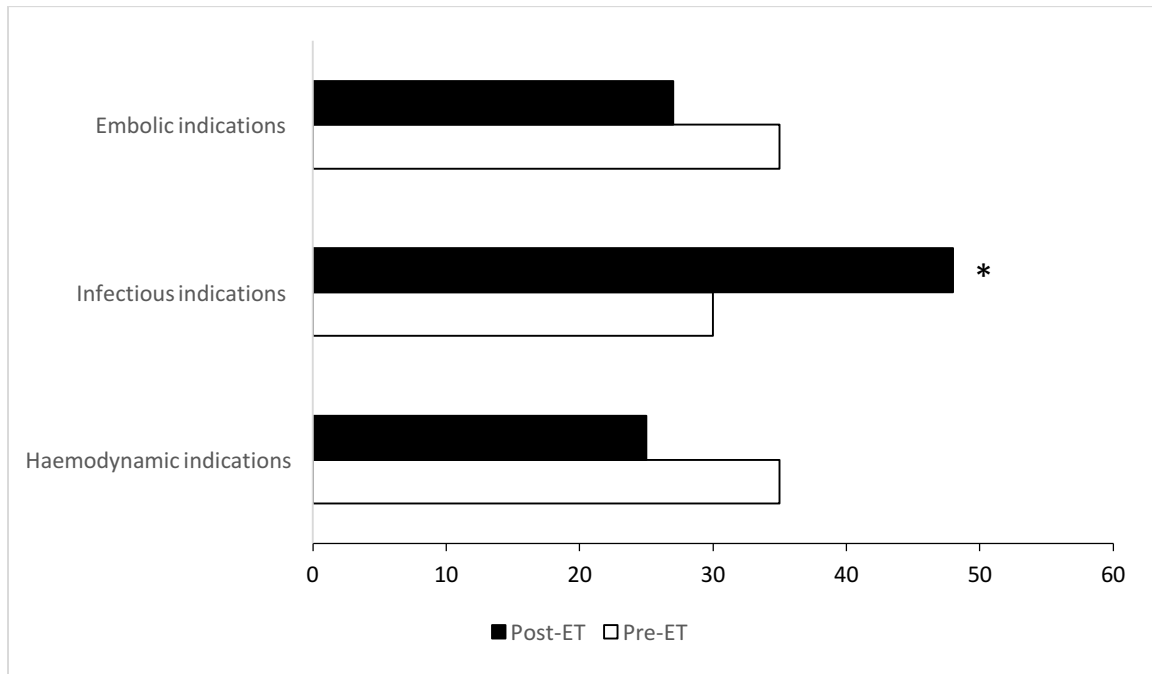
Supplementary Table 4. Univariate analysis of mortality in the surgical management group

Variable	In-hospital mortality			1 -year mortality		
	Hazard Ratio	95% CI	P-value	Hazard Ratio	95% CI	P-value
Age (years)	1.03	0.98 – 1.08	0.23	1.04	1.00 – 1.07	0.03
Male	0.81	0.25 – 2.63	0.73	1.45	0.55 – 4.00	0.43
Diabetes mellitus	0.88	0.11 – 7.14	0.90	0.99	0.29 – 3.37	0.99
EuroSCORE II	1.09	1.01 – 1.17	0.03	1.00	1.00 – 1.01	0.23
Serum eGFR (ml/min) ^a	0.98	0.95 – 1.00	0.06	0.98	0.96 – 0.99	0.02
Serum haemoglobin (g/dL) ^a	0.99	0.97 – 1.01	0.21	0.99	0.98 – 1.00	0.10
Serum neutrophils (x10 ⁹ /L) ^a	1.04	0.94 – 1.15	0.47	1.06	1.00 – 1.13	0.06
Serum CRP (mg/L) ^a	1.01	1.00 – 1.02	0.04	1.01	1.00 – 1.01	0.05
Predisposing cardiac disease ^b	1.27	0.32 – 5.08	0.74	2.11	0.93 – 4.82	0.08
Intravenous drug abuse	0.04	0 – 2478.59	0.58	1.17	0.27 – 4.99	0.83
History of IE	0.04	0 – 669.93	0.52	0.45	0.06 – 3.35	0.44
Intervention (12 months) ^c	0.04	0 – 37.60	0.35	0.36	0.08 – 1.51	0.16
AV	1.59	0.43 – 5.92	0.49	0.78	0.34 – 1.81	0.57
MV	0.61	0.13 – 2.93	0.54	0.92	0.38 – 2.23	0.85
Left valve	0.32	0.07 – 1.52	0.15	0.85	0.20 – 3.64	0.83
Right valve	0.04	0 – 669.93	0.52	1.45	0.43 – 4.89	0.55
Native	0.44	0.12 – 1.62	0.21	0.34	0.15 – 0.77	0.01
Blood culture positive	0.58	0.12 – 2.77	0.49	0.42	0.17 – 1.08	0.07
Viridans group streptococci	0.82	0.19 – 6.53	0.85	0.97	0.29 – 3.26	0.96
Staphylococcus aureus	1.72	0.43 – 6.87	0.44	1.19	0.47 – 3.02	0.71

Immunological phenomena	0.87	0.11 – 6.98	0.90	0.30	0.04 – 2.25	0.24
Acute stroke	1.68	0.42 – 6.70	0.47	1.18	0.46 – 2.98	0.73
Other emboli	1.36	0.36 – 5.05	0.65	1.33	0.58 – 3.02	0.50
Congestive cardiac failure	1.21	0.25 – 5.85	0.81	1.47	0.58 – 3.74	0.42
Uncontrolled Sepsis	2.31	0.58 – 9.24	0.23	1.70	0.67 – 4.31	0.27
Valvular abscess	2.98	0.75 – 11.92	0.12	2.28	0.90 – 5.79	0.08
Renal failure ^d	4.90	1.23 – 19.61	0.03	4.38	1.72 – 11.14	0.002
Time to first TTE	1.01	0.96 – 1.06	0.76	0.99	0.94 – 1.04	0.70
Time to TOE following TTE	1.00	0.95 – 1.06	0.96	1.01	0.97 – 1.04	0.70
Time to IE specific antibiotics	1.00	0.96 – 1.04	0.94	0.99	0.96 – 1.03	0.75
Time to surgery	0.97	0.89 – 1.06	0.47	1.00	0.98 – 1.03	0.86
Duration of stay	1.00	0.95 – 1.04	0.82	1.38	0.27 – 7.07	0.70
ET	0.94	0.25 – 3.49	0.92	0.76	0.33 – 1.75	0.51

Data shown as mean \pm standard deviation or number (percentage). ^aadmission values; ^brheumatic disease, prosthetic valve or valve repair; ^cdental or surgical interventions within the past 12 months; ^drenal failure requiring renal replacement therapy. AV, aortic valve; CRP, C-reactive protein; ET, endocarditis team; IE, infective endocarditis; MV, mitral valve; TOE, transoesophageal echocardiogram; TTE, transthoracic echocardiogram.

Supplementary Figure 1: Indications for surgery according to time period



Indications for surgery in the pre-ET (white bar) and post-ET (black bar) periods. *P-value<0.05 compared to pre-ET in the infections indications group. ET, endocarditis team.