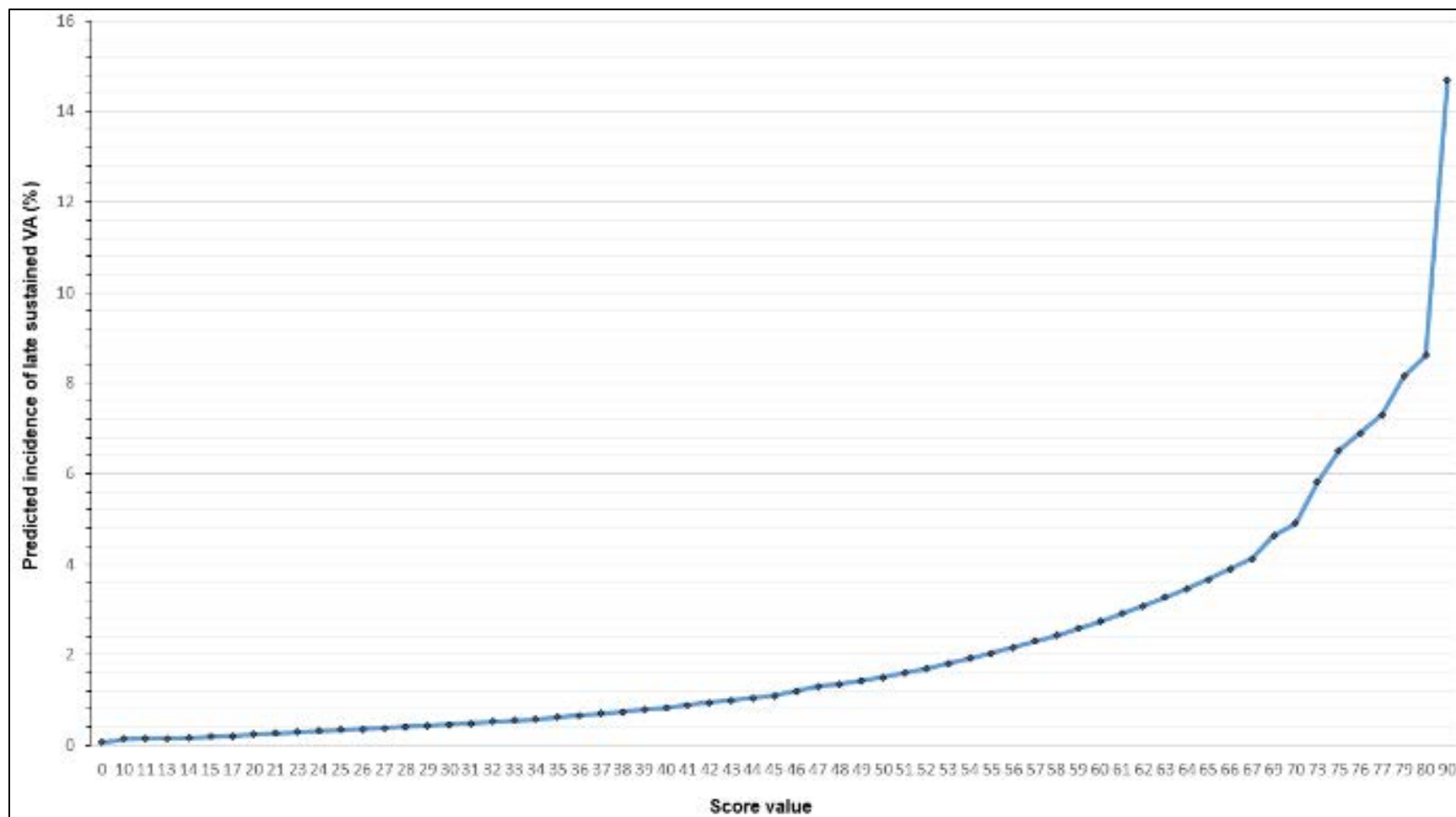
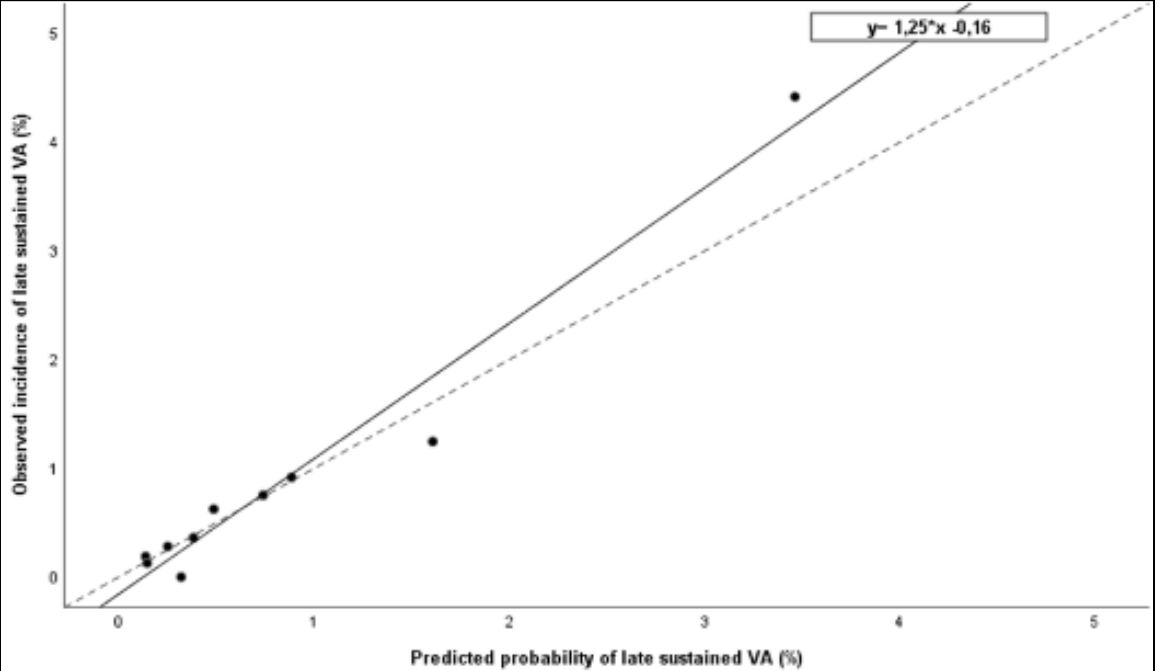


Supplemental appendix

I. Supplemental figure 1- Relationship between the late ventricular arrhythmia risk score value and the predicted incidence of late ventricular arrhythmia.



II. Supplemental figure 2- Calibration plot of predicted vs. observed incidence of IVA in the study population across deciles of risk score



III. Supplemental table 1

Supplemental table 1 – Acute phase management and angiographic findings of the study population according to the occurrence and timing of sustained ventricular arrhythmias				
Characteristics	No sustained VA (n=12725)	Early sustained VA (n=678)	Late sustained VA (n=120)	p-value
<i>Acute management strategy</i>				
Primary percutaneous coronary intervention	10101 (79.4)	561 (82.7)	100 (83.3)	0.011*
Fibrinolysis	1134 (8.9)	70 (10.3)	5 (4.2)	
Secondary percutaneous coronary intervention	437 (3.4)	12 (1.8)	5 (4.2)	
Coronary angiogram – No Revascularization	885 (7.0)	27 (4.0)	8 (6.7)	
No coronary angiogram-No Revascularization	168 (1.3)	8 (1.2)	2 (1.7)	
<i>Coronary angiogram</i>				
Coronary angiogram performed	12543 (98.6)	669 (98.7)	118 (98.3)	1.00
Radial access	7907/11123 (71.1)	332/607 (54.7)	56/108 (51.9)	<0.001*†
<i>Significant lesions</i>				
Left anterior descending artery	8116/12446 (65.2)	447/668 (66.9)	82/118 (69.5)	0.42
Left circumflex	5036/12443 (40.5)	261/668 (39.1)	45/118 (38.1)	0.68
Right coronary artery	7233/12438 (58.2)	395/667 (59.2)	64/118 (54.2)	0.59
Left main	445/12439 (3.6)	43/668 (6.4)	11/118 (9.3)	<0.001*†
<i>Coronary anatomy</i>				
	n=12308	n=666	n=116	0.89
Single-vessel disease	6255 (50.8)	328 (49.2)	57 (49.1)	
Two-vessel disease	3762 (30.6)	206 (30.9)	35 (30.2)	
Three-vessel disease	2291 (18.6)	132 (19.8)	24 (20.7)	
<i>Culprit lesion</i>				
Left anterior descending artery	5207/12448 (41.8)	284/668 (42.5)	56/118 (47.5)	0.44
Left circumflex	1961/12446 (15.8)	96/668 (14.4)	18/118 (15.3)	0.63
Right coronary artery	5187/12446 (41.7)	274/668 (41.0)	40/118 (33.9)	0.22
Left main	101/12446 (0.8)	19/668 (2.8)	5/118 (4.2)	<0.001*†
PCI performed	11477 (90.2)	637 (94.0)	110 (91.7)	0.005*
Pre-PCI TIMI Flow grade 3	2996/12381 (24.2)	90/666 (13.5)	15/117 (12.8)	<0.001*†
Thromboaspiration	5265/11475 (45.9)	348/637 (54.6)	61/110 (55.5)	<0.001*
Glycoprotein IIb/IIIa inhibitors use	4984/12717 (39.2)	314/677 (46.4)	47/120 (39.2)	0.001*
<i>Stent implantation</i>				
	n=11411	n=632	n=106	0.002*†
No stent	890 (7.8)	74 (11.7)	13 (12.3)	
Bare-metal stent	5609 (49.2)	318 (50.3)	57 (53.8)	

Drug-eluting stent	4912 (43.0)	240 (38.0)	36 (34.0)	
Post-PCI TIMI flow grade 3	10827/11384 (95.1)	566/630 (89.8)	83/104 (79.8)	<0.001*†‡
Complete revascularization after index procedure	5422/11459 (47.3)	289/637 (45.4)	50/110 (45.5)	0.59

PCI: percutaneous coronary intervention; TIMI: Thrombolysis In Myocardial Infarction

* Denotes a significant Bonferroni-corrected post-hoc pairwise comparison between the « No sustained VA » and « early sustained VA » groups

† Denotes a significant Bonferroni-corrected post-hoc pairwise comparison between the « No sustained VA » and « late sustained VA » groups

‡ Denotes a significant Bonferroni-corrected post-hoc pairwise comparison between the «early sustained VA» and « late sustained VA » groups

IV. Supplemental table 2

Supplemental table 2– In-hospital management of the study population according to the occurrence and timing of sustained ventricular arrhythmias				
Characteristics	No sustained VA (n=12725)	Early sustained VA (n=678)	Late sustained VA (n=120)	p-value
<i>Additional techniques</i>				
Temporary pacemaker	75 (0.6)	25 (3.7)	4 (3.8)	<0.001*†
Mechanical circulatory assistance	409 (3.2)	102 (15.0)	20 (16.7)	<0.001*†
Mechanical ventilation	507 (4.0)	153 (22.6)	22 (18.3)	<0.001*†
Coronary artery bypass	79 (0.6)	3 (0.4)	0 (0.0)	1.00
<i>Echocardiography</i>				
Echocardiography performed	12339/12701 (97.1)	623/678 (91.9)	119/120 (99.2)	<0.001*‡
LVEF, %	50 (45-60), n=12030	45 (40-55), n=602	43 (30-50), n=114	<0.001*†‡
<i>Medications within 48hrs of admission</i>				
Inotropes/Vasopressors	858 (6.7)	209 (30.8)	27 (22.5)	<0.001*†
ACE inhibitors / ARB	5154 (48.0)	184 (33.0)	30 (30.9)	<0.001*†
Beta-blockers	10251 (80.6)	427 (63.0)	73 (60.8)	<0.001*†
Lidocaine	454 (3.6)	136 (20.1)	19 (15.8)	<0.001*†
Other anti-arrhythmic drugs	765 (6.0)	181 (26.7)	33 (27.5)	<0.001*†
Aspirin	12678 (99.6)	672 (99.1)	118 (98.3)	0.03
Ticagrelor	2172 (17.1)	113 (16.7)	19 (15.8)	0.91
Prasugrel	4522 (35.5)	212 (31.3)	30 (25.0)	0.005†
Clopidogrel	6713 (52.7)	360 (53.1)	75 (62.5)	0.10
Statins	11422 (89.8)	501 (73.9)	106 (88.3)	<0.001*‡

* Denotes a significant Bonferroni-corrected post-hoc pairwise comparison between the « No sustained VA » and « early sustained VA » groups

† Denotes a significant Bonferroni-corrected post-hoc pairwise comparison between the « No sustained VA » and « late sustained VA » groups

‡ Denotes a significant Bonferroni-corrected post-hoc pairwise comparison between the «early sustained VA» and « late sustained VA » groups

V. Supplemental table 3

Supplemental table 3- Predictors of late sustained ventricular arrhythmias					
Variables	Univariable OR (95% CI)	p-value	Multivariable β	Multivariable OR (95% CI)	p-value
Age \geq 65 years old	2.70 (1.84-3.98)	<0.001	0.969	2.64 (1.72-4.03)	<0.001
Familial history of coronary artery disease	0.62 (0.38-0.997)	0.049		-	-
Chronic obstructive pulmonary disease	1.93 (1.04-3.61)	0.04		-	-
Prior stroke/ TIA	2.10 (1.06-4.17)	0.03		-	-
Peripheral artery disease	2.07(1.08-3.97)	0.03		-	-
Serum creatinine level on admission \geq 85 μ mol/l	2.55(1.75-3.71)	<0.001	0.753	2.12 (1.41-3.20)	<0.001
Glycemia on admission \geq 8.5 mmol/l	2.30 (1.58-3.33)	<0.001		-	-
Killip class III or IV heart failure on admission	2.77 (1.63-4.72)	<0.001		-	-
Heart rate \geq 75 b.p.m on admission	2.30 (1.53-3.45)	<0.001	0.578	1.78 (1.17-2.71)	0.007
Pulse pressure \leq 45 mmHg on admission	2.15 (1.48-3.12)	<0.001	0.611	1.84 (1.24-2.73)	0.002
Q wave on admission	2.28 (1.59-3.27)	<0.001	0.577	1.78 (1.21-2.63)	0.004
Culprit lesion of the left main	4.79 (1.92-11.95)	<0.001	0.821	2.27 (0.87-5.91)	0.09
Thromboaspiration	1.44 (0.99-2.10)	0.06	0.355	1.43 (0.97-2.09)	0.07
Post-PCI TIMI Flow grade <3	4.64 (2.86-7.54)	<0.001	0.887	2.43 (1.47-4.02)	0.001
Left ventricular ejection fraction \leq 45%	3.61 (2.46-5.32)	<0.001	0.781	2.18 (1.43-3.33)	<0.001
Early mechanical ventilation	2.50 (1.40-4.47)	0.002		-	-
Early mechanical circulatory support	4.04 (2.37-6.89)	<0.001		-	-
Early high-degree atrioventricular block	2.46 (1.19-5.11)	0.016		-	-
Early right ventricular myocardial infarction	3.13 (1.36-7.18)	<0.001		-	-
Early mechanical complication	3.37 (1.55-7.31)	0.002		-	-

PCI: percutaneous coronary intervention; TIA: Transient ischemic attack; TIMI: Thrombolysis in myocardial infarction

VI. Supplemental table 4

Table 5 - Predictors of in-hospital mortality				
Variables	Univariable HR (95% CI)	p-value	Multivariable HR (95% CI)	p-value
<i>Sustained ventricular arrhythmia</i>				
Early sustained ventricular arrhythmia	3.93 (3.25-4.77)	<0.001	1.44 (1.17-1.76)	0.001
Late sustained ventricular arrhythmia	2.87 (1.94-4.25)	<0.001	0.86 (0.57-1.28)	0.45
Age, per 1 year increase	1.05 (1.04-1.05)	<0.001	1.04 (1.03-1.05)	<0.001
Female sex	1.67 (1.43-1.95)	<0.001	1.16 (0.98-1.37)	0.08
Hypertension	1.82 (1.56-2.11)	<0.001	-	-
Diabetes mellitus	1.81 (1.48-2.20)	<0.001	-	-
Current smoker	0.56 (0.47-0.66)	<0.001	-	-
Previous myocardial infarction	1.42 (1.12-1.79)	0.004	-	-
Previous coronary artery bypass graft	2.18 (1.40-3.41)	0.001	-	-
Chronic obstructive pulmonary disease	1.50 (1.14-1.97)	0.004	-	-
Previous stroke/transient ischemic attack	1.85 (1.39-2.45)	<0.001	-	-
Peripheral artery disease	2.11 (1.65-2.70)	<0.001	-	-
Previous pacemaker	3.06 (1.80-5.20)	<0.001	-	-
Serum creatinine level on admission, per 1 μ mol/l increase	1.006 (1.005-1.006)	<0.001	1.004 (1.003-1.005)	<0.001
Glycemia on admission, per 1mmol/l increase	1.11 (1.10-1.11)	<0.001	1.05 (1.04-1.07)	<0.001
Presentation as cardiac arrest	5.95 (4.94-7.18)	<0.001	2.50 (2.03-3.09)	<0.001
Admission to a non-PCI capable center	0.77 (0.63-0.95)	0.014	0.80 (0.64-0.99)	0.04
Managed by mobile intensive care unit	1.40 (1.19-1.64)	<0.001	-	-
Q wave on admission	1.39 (1.19-1.62)	<0.001	1.31 (1.11-1.55)	0.002
Left bundle branch block on admission	2.73 (2.06-3.62)	<0.001	-	-
Anterior myocardial infarction	1.41 (1.22-1.64)	<0.001	-	-
Killip class III or IV heart failure	22.12 (18.43-26.56)	<0.001	4.49 (3.59-5.61)	<0.001
Heart rate, per 1 b.p.m increase	1.02 (1.01-1.02)	<0.001	-	-
Systolic blood pressure, per 1mmHg increase	0.97 (0.97-0.97)	<0.001	0.993 (0.990-0.995)	<0.001
<i>Acute management strategy</i>				
Primary percutaneous coronary intervention	Ref.			
Fibrinolysis	1.13 (0.86-1.48)	0.38	1.79 (1.34-2.39)	<0.001
Secondary percutaneous coronary intervention	0.38 (0.20-0.74)	0.004	0.55 (0.27-1.11)	0.10
Coronary angiogram – No Revascularization	1.24 (0.95-1.61)	0.11	1.24 (0.94-1.64)	0.12
No coronary angiogram-No Revascularization	6.43 (4.95-8.36)	<0.001	3.18 (2.38-4.23)	<0.001
Left ventricular ejection fraction, per 1% increase	0.91 (0.90-0.92)	<0.001	0.966 (0.960-0.973)	<0.001

Temporary pacemaker	3.65 (2.58-5.18)	<0.001	-	-
Mechanical ventilation	10.32 (8.80-12.10)	<0.001	1.95 (1.60-2.37)	<0.001
Mechanical circulatory support	5.36 (4.48-6.42)	<0.001	-	-
High degree atrioventricular block	2.53 (2.01-3.18)	<0.001	-	-
Mechanical complications	4.48 (3.66-5.48)	<0.001	1.96 (1.59-2.41)	<0.001
Right ventricular myocardial infarction	3.82 (2.95-4.95)	<0.001	1.61 (1.22-2.11)	0.001
Stroke	2.16 (1.33-3.48)	<0.001	-	-

PCI: percutaneous coronary intervention