

Supplementary Data Material

Soluble Triggering Receptor Expressed on Myeloid cells-1 is a marker of organ injuries in cardiogenic shock. Results from the CardShock Study

Summary

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Table S1: Comparisons of population with available with non-available samples.

Variables	n	Global	n non-available samples	Non-available samples	n available samples	Available samples	p-value
Age (years)	219	67 (60 - 75)	132	66 (61 - 74)	87	68 (58 - 78)	0.93
Male gender (%)	219	161 (74 %)	132	96 (73 %)	87	65 (75 %)	0.74
BMI (kg/m ²)	213	26.3 (24.2 - 28.9)	126	26.2 (23.9 - 29.4)	87	26.7 (24.7 - 28.7)	0.80
Medical history							
Ischemic heart disease	219	76 (35 %)	132	45 (34 %)	87	31 (36 %)	0.81
Chronic heart failure	219	36 (16 %)	132	18 (14 %)	87	18 (21 %)	0.17
Atrial Fibrillation	219	32 (15 %)	132	18 (14 %)	87	14 (16 %)	0.61
Chronic respiratory disease	219	25 (11 %)	132	12 (9 %)	87	13 (15 %)	0.18
Chronic kidney disease	219	25 (11 %)	132	10 (8 %)	87	15 (17 %)	0.028
Stroke	219	23 (11 %)	132	18 (14 %)	87	5 (6 %)	0.062
Underlying Causes							
Resuscitation prior to baseline	219	62 (28 %)	132	36 (27 %)	87	26 (30 %)	0.67
Acute coronary syndrome	219	177 (81 %)	132	107 (81 %)	87	70 (80 %)	0.91
Decompensated chronic heart failure	219	23 (11 %)	132	13 (10 %)	87	10 (11 %)	0.70
Others*	219	17 (8 %)	132	7 (5 %)	87	10 (11 %)	0.094
Clinical parameters at baseline							
Systolic blood pressure at baseline (mmHg)	216	80 (70 - 85)	129	80 (70 - 86)	87	76 (70 - 84)	0.058
Diastolic blood pressure at baseline (mmHg)	210	46 (40 - 54)	124	46 (40 - 55)	86	46 (40 - 52)	0.69
Mean blood pressure at baseline (mmHg)	210	57 (50 - 63)	124	57 (50 - 64)	86	56 (51 - 61)	0.50
Heart rate at baseline (bpm)	213	92 (70 - 110)	127	91 (75 - 110)	86	95 (70 - 111)	1.00
LV ejection fraction at baseline (%)	208	30 (20 - 45)	126	31 (20 - 45)	82	30 (20 - 45)	0.35
Biology at baseline							
lactate at baseline (mmol/L)	217	2.8 (1.7 - 5.8)	132	2.7 (1.5 - 5.4)	85	2.9 (2.0 - 6.0)	0.28
pH at baseline	218	7.30 (7.20 - 7.40)	131	7.30 (7.21 - 7.40)	87	7.30 (7.20 - 7.40)	0.27
eGFR at baseline (mL/min/1.73m ²)	178	61 (41 - 87)	92	65 (43 - 93)	86	56 (34 - 83)	0.082
Creatinine at baseline (μmol/L)	178	104 (78 - 140)	92	98 (74 - 133)	86	110 (84 - 158)	0.047
Bilirubin at baseline (μmol/L)	178	10 (6 - 16)	91	9 (6 - 15)	87	10 (6 - 16)	0.30
ALT at baseline (UI/L)	178	44 (20 - 90)	91	49 (21 - 101)	87	43 (19 - 87)	0.22
NT-proBNP at baseline (ng/L)	178	2710 (590 - 9360)	92	2488 (574 - 9132)	86	3193 (631 - 9715)	0.66
hs-TNT at baseline(ng/L)	178	2190 (389 - 5417)	92	2501 (473 - 6698)	86	1635 (319 - 4860)	0.21
PaO ₂ /FiO ₂ at baseline (%)	192	159 (101 - 257)	114	156 (110 - 256)	78	162 (98 - 258)	0.99
PCT at baseline (ng/mL)	179	0.26 (0.09 - 0.93)	92	0.23 (0.10 - 0.78)	87	0.28 (0.08 - 1.02)	0.42
CRP at baseline (mg/L)	178	16 (4 - 53)	92	16 (5 - 53)	86	16 (4 - 48)	0.95
bio-adrenomodulin (pg/mL)	179	53 (33 - 88)	92	54 (33 - 88)	87	53 (35 - 86)	0.95
ST2 (ng/mL)	173	267 (119 - 517)	89	277 (119 - 568)	84	264 (118 - 498)	0.70
Treatments							
Norepinephrine administered	216	164 (76 %)	131	112 (85 %)	85	52 (61 %)	<0.0001
Norepinephrine length (days)	177	2 (0 - 3)	100	2 (1 - 3)	77	1 (0 - 3)	0.008
Epinephrine administered	208	46 (22 %)	124	30 (24 %)	84	16 (19 %)	0.38
Epinephrine length (days)	200	0 (0 - 0)	116	0 (0 - 0)	84	0 (0 - 0)	0.97
Dobutamine administered	213	108 (51 %)	128	47 (37 %)	85	61 (72 %)	<0.0001

Variables	n	Global	n non-available samples	Non-available samples	n available samples	Available samples	p-value
Dobutamine length (days)	182	0 (0 - 2)	120	0 (0 - 1)	62	1 (0 - 3)	<0.0001
Dopamine administered	214	55 (26 %)	129	37 (29 %)	85	18 (21 %)	0.22
Dopamine length (days)	199	0 (0 - 0)	121	0 (0 - 0)	78	0 (0 - 0)	0.11
Non-invasive ventilation	214	44 (21 %)	130	36 (28 %)	84	8 (10 %)	0.001
Non-invasive ventilation length (days)	40	2 (1 - 4)	32	2 (2 - 4)	8	1 (1 - 2)	0.016
Invasive ventilation	218	137 (63 %)	131	79 (60 %)	87	58 (67 %)	0.34
Invasive ventilation length (days)	127	5 (2 - 9)	71	4 (2 - 7)	56	7 (4 - 11)	0.008
Percutaneous coronary intervention	219	150 (68 %)	132	97 (73 %)	87	53 (61 %)	0.050
Intra-aortic balloon pump	218	131 (60 %)	131	80 (61 %)	87	51 (59 %)	0.72
Outcomes							
Hospital length of stay (day)	219	10 (3 - 21)	132	7 (3 - 18)	87	14 (8 - 24)	0.0009
In-hospital non-survivors	219	80 (37 %)	132	45 (34 %)	87	35 (40 %)	0.36
90-day non-survivors	216	90 (42 %)	129	50 (39 %)	87	40 (46 %)	0.29

Others: Myocarditis n= 4 , Valvular disease n= 13

Table S2: 90-day outcome univariable cox regression model.

Variables	beta	HR (95% CI for HR)	wald.test	p.value
Age	0.01	1.01 (0.98-1.04)	0.7	0.40
Male gender	-0.26	0.77 (0.36-1.67)	0.43	0.51
BMI	0.08	1.08 (1.00-1.18)	3.6	0.058
Medical history				
Ischemic heart disease	1.01	2.75 (1.32-5.73)	7.3	0.007
Chronic heart failure	0.80	2.22 (1.03-4.78)	4.1	0.043
Atrial Fibrillation	0.49	1.63 (0.69-3.81)	1.3	0.26
Chronic respiratory disease	1.07	2.91 (1.10-7.74)	4.6	0.032
Chronic kidney disease	0.84	2.31 (1.05-5.09)	4.4	0.037
Stroke	0.03	1.03 (0.24-4.33)	0	0.97
Underlying Causes				
Resuscitation prior to baseline	0.92	2.50 (1.19-5.25)	5.8	0.016
Acute coronary syndrome	-0.20	0.82 (0.35-1.92)	0.21	0.64
Decompensated chronic heart failure	0.87	2.40 (0.97-5.90)	3.6	0.057
Others	-0.10	0.90 (0.31-2.60)	0.03	0.85
Clinical parameters at baseline				
Systolic blood pressure at baseline (per 1 mmHg increase)	-0.04	0.97 (0.93-1.00)	3.5	0.063
Diastolic blood pressure at baseline	-0.04	0.96 (0.92-1.00)	3.3	0.070
Mean blood pressure at baseline	-0.03	0.97 (0.93-1.01)	2.3	0.13
Heart rate at baseline	0.00	1.00 (0.99-1.01)	0	0.99
LV ejection fraction at baseline (per 10 % decrease)	-0.32	0.72 (0.56-0.94)	5.8	0.016
Biology at baseline				
lactate at baseline (per 1 mmol/L increase)	0.18	1.20 (1.10-1.30)	17	<0.0001
pH at baseline (per 0.01 unit increase)	-0.04	0.96 (0.94-0.99)	10	0.001
eGFR at baseline (per 10 mL/min/1.73m ² decrease)	0.22	1.24 (1.07-1.43)	8.6	0.003
Creatinine at baseline (per 10 μmol/L increase)	0.04	1.04 (1.01-1.07)	5.5	0.019
Bilirubin at baseline	0.00	1.00 (1.00-1.00)	0.01	0.91
ALT at baseline	0.00	1.00 (1.00-1.00)	0.25	0.62
NT-proBNP at baseline (per 5000 ng/L increase)	0.10	1.11 (0.99-1.23)	3.4	0.066
hs-TNT at baseline	0.00	1.00 (1.00-1.00)	0.62	0.43
PaO ₂ /FiO ₂ at baseline	-0.00	1.00 (0.99-1.00)	2.3	0.13
PCT at baseline (per 5 ng/mL increase)	0.25	1.29 (1.01-1.63)	4.2	0.041
CRP at baseline	-0.00	1.00 (0.99-1.00)	0.05	0.83
bio-adrenomodulin (pg/mL)	0.00	1.00 (1.00-1.00)	0.64	0.42
ST2 (ng/ml)	0.00	1.00 (1.00-1.00)	0.24	0.62
sTREM >1347 pg/ml	1.13	3.08 (1.48-6.42)	9.1	0.003
Treatments				
Norepinephrine administered	1.15	3.16 (1.34-7.47)	6.9	0.009
Norepinephrine length	0.15	1.16 (0.95-1.42)	2	0.16
Epinephrine administered	2.78	16.05 (6.30-40.91)	34	<0.0001
Epinephrine length (per 1-day increase)	0.62	1.85 (1.42-2.41)	21	<0.0001
Dobutamine administered	-0.06	0.94 (0.43-2.08)	0.02	0.88
Dobutamine length	-0.04	0.96 (0.75-1.24)	0.09	0.77
Dopamine administered	0.37	1.45 (0.64-3.29)	0.77	0.38
Dopamine length	0.03	1.03 (0.79-1.34)	0.06	0.81
Non-invasive ventilation	-0.69	0.50 (0.12-2.12)	0.87	0.35
Invasive ventilation	1.09	2.97 (1.21-7.30)	5.6	0.018
Invasive ventilation length	-0.00	1.00 (0.98-1.02)	0.05	0.82
Percutaneous coronary intervention	-0.50	0.61 (0.29-1.26)	1.8	0.18

Variables	beta	HR (95% CI for HR)	wald.test	p.value
Intra-aortic balloon pump	0.62	1.86 (0.86-4.01)	2.5	0.11
Outcomes				
Hospital Length of stay	-0.03	0.97 (0.95-1.00)	3.5	0.060

Figure S1: Flow chart

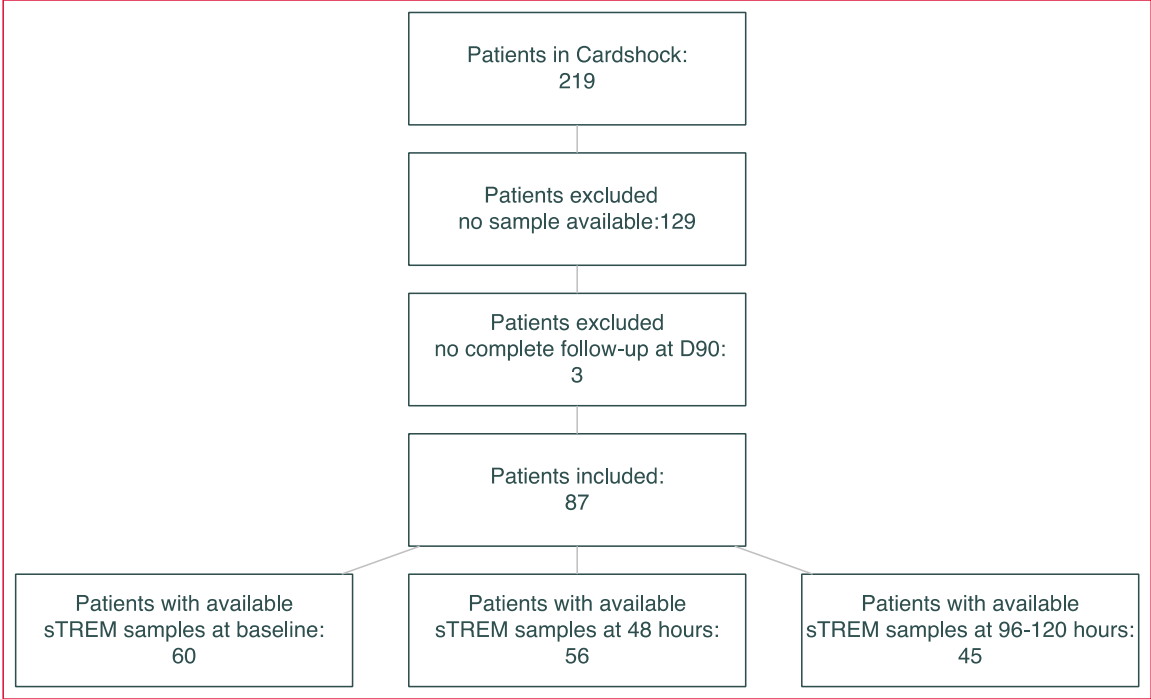


Figure S2: 90-day survival analysis according to sTREM-1 by tercile at baseline

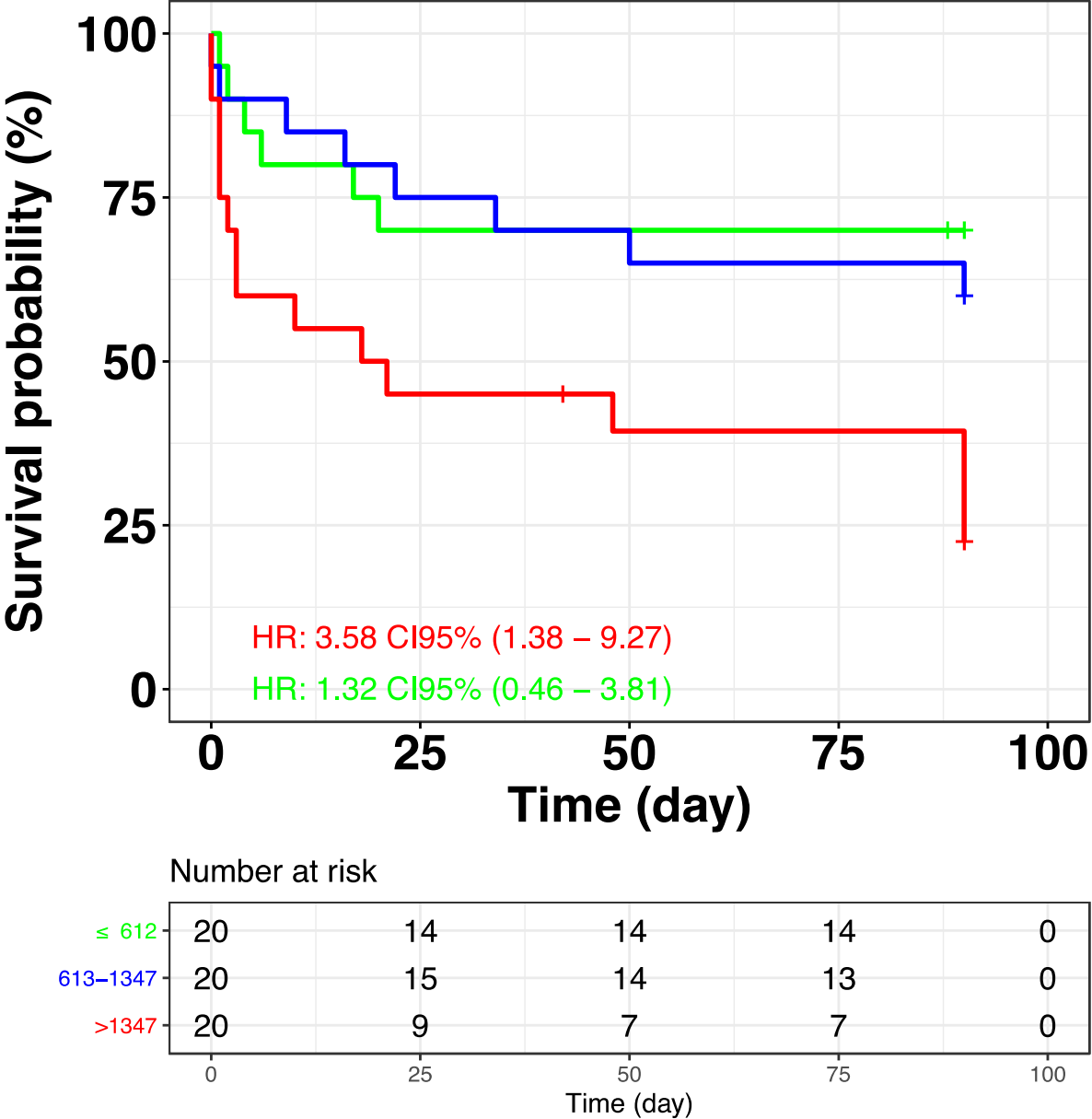


Figure S3: Impact of sTREM-1 threshold at baseline on severity at 48 hours

