

SUPPLEMENTAL MATERIAL:

**Table S1.** Clinical outcomes at 365 days.

|                                    | No<br>Ventilation<br>n=119 | Ventilation at<br>admission<br>n=408 | Ventilation within day 1 after<br>admission<br>n=156 | p-value |
|------------------------------------|----------------------------|--------------------------------------|------------------------------------------------------|---------|
| <b>Primary endpoint /N (%)</b>     |                            |                                      |                                                      |         |
| Death                              | 32/119 (26.9)              | 227/407 (55.8)                       | 105/156 (67.3)                                       | <0.001  |
| <b>Secondary endpoints n/N (%)</b> |                            |                                      |                                                      |         |
| Renal replacement therapy          | 9/119 (7.6)                | 63/407 (15.5)                        | 24/156 (15.4)                                        | 0.08    |
| Myocardial Infarction              | 1/119 (0.8)                | 11/407 (2.7)                         | 1/156 (0.6)                                          | 0.18    |
| Rehospitalization                  | 5/119 (4.2)                | 12/407 (2.9)                         | 5/156 (3.2)                                          | 0.79    |
| Repeat revascularization           | 35/119 (29.4)              | 79/407 (19.4)                        | 29/156 (18.6)                                        | 0.044   |
| <b>Safety endpoints n/N (%)</b>    |                            |                                      |                                                      |         |
| Bleeding event                     | 22/119 (18.5)              | 104/407 (25.6)                       | 35/156 (22.4)                                        | 0.26    |
| Stroke                             | 5/119 (4.2)                | 14/407 (3.4)                         | 10/156 (6.4)                                         | 0.29    |

**Table S2.** Independent predictors for ventilation.

|                                                 | <b>Odds Ratio</b>    | <b>p-value</b> |
|-------------------------------------------------|----------------------|----------------|
|                                                 | (95% CI)             |                |
| <b>Ventilation at presentation</b>              |                      |                |
| Weight                                          | 1.04 (1.01-1.06)     | 0.003          |
| Resuscitation within 24h                        | 48.51 (21.13-111.35) | <0.001         |
| Left bundle branch block                        | 3.00 (1.01-8.97)     | 0.048          |
| ST-segment elevation                            | 0.43 (0.21-0.90)     | 0.024          |
| Heart rate                                      | 1.02 (1.00-1.03)     | 0.012          |
| Catecholamine requirement                       | 23.90 (8.94-63.91)   | <0.001         |
| <b>Ventilation within day 1 after admission</b> |                      |                |
| Heart rate                                      | 1.01 (1.00-1.02)     | 0.009          |
| Catecholamine requirement                       | 9.36 (4.09-21.43)    | <0.001         |

CI = confidence interval.

**Table S3.** Characteristics of non-resuscitated patients.

|                                                              | <b>No<br/>Ventilation<br/>n =101</b> | <b>Ventilation at<br/>admission<br/>n=85</b> | <b>Ventilation within<br/>day 1 after admission<br/>n=129</b> | <b>p-value</b> |
|--------------------------------------------------------------|--------------------------------------|----------------------------------------------|---------------------------------------------------------------|----------------|
| <b>Age – years</b>                                           |                                      |                                              |                                                               |                |
| Median (IQR)                                                 | 70 (62,77)                           | 71 (63,78)                                   | 74 (64,80)                                                    | 0.09           |
| <b>BMI kg/m<sup>2</sup></b>                                  |                                      |                                              |                                                               |                |
| Median (IQR)                                                 | 25.6 (22.9,28.6)                     | 27.8 (25.4,31.1)                             | 26.7 (24.6,29.4)                                              | 0.003          |
| <b>Cardiovascular risk factors n/N (%)</b>                   |                                      |                                              |                                                               |                |
| Current smoking                                              | 37/100 (37.0)                        | 21/82 (25.6)                                 | 26/123 (21.1)                                                 | 0.028          |
| Hypertension                                                 | 59/101 (58.4)                        | 55/83 (66.3)                                 | 81/125 (64.8)                                                 | 0.48           |
| Dyslipidemia                                                 | 36/101 (35.6)                        | 33/82 (40.2)                                 | 37/125 (29.6)                                                 | 0.27           |
| Diabetes mellitus                                            | 32/101 (31.7)                        | 34/82 (41.5)                                 | 47/126 (37.3)                                                 | 0.38           |
| Family history of CAD                                        | 62/100 (16.0)                        | 6/81 (7.4)                                   | 10/120 (8.3)                                                  | 0.10           |
| <b>Previous myocardial infarction n/N (%)</b>                | 21/101 (20.8)                        | 17/82 (20.7)                                 | 19/127 (15.0)                                                 | 0.43           |
| <b>Previous stroke n/N (%)</b>                               | 6/101 (5.9)                          | 9/82 (11.0)                                  | 12/128 (9.4)                                                  | 0.45           |
| <b>Known peripheral artery disease n/N (%)</b>               | 14/101 (13.9)                        | 15/83 (18.1)                                 | 20/128 (15.6)                                                 | 0.74           |
| <b>Known renal insufficiency (GFR &lt; 30ml/min) n/N (%)</b> | 6/101 (5.9)                          | 9/83 (10.8)                                  | 11/126 (8.7)                                                  | 0.48           |
| <b>Chronic dialysis n/N (%)</b>                              | 1/101 (1.0)                          | 1/83 (1.2)                                   | 2/128 (1.6)                                                   | 0.93           |
| <b>Previous PCI n/N (%)</b>                                  | 21/101 (20.8)                        | 24/82 (29.3)                                 | 16/127 (12.6)                                                 | 0.012          |
| <b>Previous CABG no (%) n/N (%)</b>                          | 3/101 (3.0)                          | 5/83 (6.0)                                   | 2/127 (1.6)                                                   | 0.20           |
| <b>Signs of impaired organ perfusion n/N (%)</b>             |                                      |                                              |                                                               |                |
| Altered mental status                                        | 41/101 (40.6)                        | 49/84 (58.3)                                 | 55/129 (42.6)                                                 | 0.032          |
| Cold, clammy skin and limbs                                  | 54/101 (53.5)                        | 51/82 (62.2)                                 | 83/128 (64.8)                                                 | 0.20           |
| Oliguria ( $\leq$ 30ml/h)                                    | 9/100 (9.0)                          | 29/80 (36.3)                                 | 33/123 (26.8)                                                 | <0.001         |
| Arterial lactate >2.0 mmol/l                                 | 42/100 (42.0)                        | 57/81 (70.4)                                 | 90/125 (72.0)                                                 | <0.001         |
| <b>ST-segment elevation n/N (%)</b>                          | 73/99 (73.7)                         | 41/83 (49.4)                                 | 89/128 (69.5)                                                 | 0.001          |
| anterior n/N (%)                                             | 32/72 (44.4)                         | 23/41 (56.1)                                 | 51/88 (58.0)                                                  | 0.21           |
| non-anterior n/N (%)                                         | 40/72 (55.6)                         | 18/41 (43.9)                                 | 37/88 (42.0)                                                  | 0.21           |
| <b>ST-segment depression n/N (%)</b>                         | 39/99 (39.4)                         | 46/83 (55.4)                                 | 63/128 (49.2)                                                 | 0.089          |
| <b>LBBB n/N (%)</b>                                          | 9/99 (9.1)                           | 16/83 (19.3)                                 | 14/128 (10.9)                                                 | 0.91           |
| <b>Mean arterial pressure – mmHg</b>                         |                                      |                                              |                                                               |                |

|                                                     |                    |                     |                     |        |
|-----------------------------------------------------|--------------------|---------------------|---------------------|--------|
| Median (IQR)                                        | 78 (63, 93)        | 73 (62,88)          | 75 (62, 93)         | 0.57   |
| <b>Heart rate-beats/min</b>                         |                    |                     |                     |        |
| Median (IQR)                                        | 80 (60, 107)       | 91 (79, 107)        | 95 (77, 109)        | 0.005  |
| <b>Creatinine (umol/l)</b>                          |                    |                     |                     |        |
| Median (IQR)                                        | 98.0 (80.0, 129.6) | 119.7 (96.6, 157.2) | 120.7 (92.0, 163.0) | 0.033  |
| <b>N° affected vessels n/N (%)</b>                  |                    |                     |                     | 0.004  |
| 1 n/N (%)                                           | 2/101 (2.0)        | 1/85 (1.2)          | 0/129 (0.0)         |        |
| 2 n/N (%)                                           | 47/101 (46.5)      | 20/85 (23.5)        | 51/129 (39.5)       |        |
| 3 n/N (%)                                           | 52/101 (51.5)      | 64/85 (75.3)        | 78/129 (60.5)       |        |
| <b>Artery with culprit lesion n/N (%)</b>           |                    |                     |                     | 0.35   |
| Left anterior descending                            | 34/101 (33.7)      | 30/85 (35.3)        | 55/129 (42.6)       |        |
| Left circumflex                                     | 18/101 (17.8)      | 16/85 (18.8)        | 21/129 (16.3)       |        |
| Right coronary                                      | 72/101 (41.6)      | 26/85 (30.6)        | 37/129 (28.7)       |        |
| Left main                                           | 7/101 (6.9)        | 10/85 (11.8)        | 16/129 (12.4)       |        |
| Bypass                                              | 0/101 (0.0)        | 3/85 (3.5)          | 0/129 (0.0)         |        |
| <b>Left ventricular ejection fraction-%</b>         |                    |                     |                     |        |
| Median (IQR)                                        | 39 (30, 50)        | 32 (20, 40)         | 30 (20, 37)         | 0.014  |
| <b>Primary endpoint of death at 30 days n/N (%)</b> | 20/101 (19.8)      | 44/85 (51.8)        | 83/129 (64.3)       | <0.001 |

IQR= interquartile range; BMI=body mass index; CAD=coronary artery disease GFR=glomerular filtration rate; PCI=percutaneous coronary intervention; CABG=coronary artery bypass graft; LBBB=left bundle branch block.

**Table S4.** Baseline characteristics according to ventilation.

|                                                              | <b>Never ventilated</b> | <b>NIV alone</b> | <b>NIV before IMV</b> | <b>IMV alone</b> |
|--------------------------------------------------------------|-------------------------|------------------|-----------------------|------------------|
|                                                              | n=119                   | n=56             | n=12                  | n=435            |
| <b>Age – years</b>                                           |                         |                  |                       |                  |
| Median (IQR)                                                 | 70 (60, 78)             | 68 (58,76)       | 77 (69,84)            | 70 (61,78)       |
| <b>BMI kg/m2</b>                                             |                         |                  |                       |                  |
| Median (IQR)                                                 | 25.7 (23.4,28.4)        | 26.0 (23.5,28.7) | 26.5 (25.9,30.3)      | 27.1 (24.7,29.4) |
| <b>Cardiovascular risk factors n/N (%)</b>                   |                         |                  |                       |                  |
| Current smoking                                              | 43/118 (36.4)           | 16/51 (31.4)     | 3/12 (25.0)           | 98/418 (23.4)    |
| Hypertension                                                 | 69/169 (58.0)           | 36/54 (66.7)     | 8/12 (66.7)           | 255/426 (59.9)   |
| Dyslipidemia                                                 | 44/119 (37.0)           | 18/54 (33.3)     | 3/12 (25.0)           | 130/423 (30.7)   |
| Diabetes mellitus                                            | 38/119 (31.9)           | 15/54 (27.8)     | 8/12 (66.7)           | 139/424 (32.8)   |
| Family history of CAD                                        | 19/118 (16.1)           | 10/48 (20.8)     | 3/12 (25.0)           | 39/412 (9.5)     |
| <b>Previous myocardial infarction n/N (%)</b>                | 24/118 (20.3)           | 7/54 (13.0)      | 2/12 (16.7)           | 66/426 (15.5)    |
| <b>Previous stroke n/N (%)</b>                               | 9/119 (7.6)             | 5/54 (9.3)       | 0/12 (0.0)            | 31/429 (7.2)     |
| <b>Known peripheral artery disease n/N (%)</b>               | 15/119 (12.6)           | 6/54 (11.1)      | 3/12 (25.0)           | 46/429 (10.7)    |
| <b>Known renal insufficiency (GFR &lt;30 ml/min) n/N (%)</b> | 6/119 (5.0)             | 3/54 (5.6)       | 1/12 (8.3)            | 32/427 (7.5)     |
| <b>Chronic dialysis n/N (%)</b>                              | 1/119 (0.8)             | 0/55 (0.0)       | 0/12 (0.0)            | 4/428 (0.9)      |
| <b>Previous PCI n/N (%)</b>                                  | 25/118 (21.2)           | 12/54 (22.2)     | 1/12 (8.3)            | 73/426 (17.1)    |
| <b>Previous CABG no (%) n/N (%)</b>                          | 4/119 (3.4)             | 2/55 (3.6)       | 0/12 (0.0)            | 22/428 (5.1)     |
| <b>Signs of impaired organ perfusion n/N (%)</b>             |                         |                  |                       |                  |
| Altered mental status                                        | 54/119 (45.4)           | 26/55 (47.3)     | 9/12 (75.0)           | 328/434 (75.6)   |
| Cold, clammy skin and limbs                                  | 67/119 (56.3)           | 34/52 (65.4)     | 10/11 (90.9)          | 318/433 (73.4)   |
| Oliguria (≤30ml/h)                                           | 12/117 (10.3)           | 15/50 (30.0)     | 5/11 (45.5)           | 126/425 (29.6)   |
| Arterial lactate >2.0 mmol/l                                 | 49/117 (41.9)           | 31/51 (60.8)     | 12/12 (100.0)         | 303/422 (71.8)   |
| <b>Resuscitation before randomization n/N (%)</b>            | 18/119 (15.1)           | 16/56 (28.6)     | 1/12 (8.3)            | 286/433 (66.1)   |
| <b>ST-segment elevation n/N (%)</b>                          | 85/117 (72.6)           | 38/54 (70.4)     | 7/10 (70.0)           | 252/424 (59.4)   |
| anterior n/N (%)                                             | 40/84 (47.6)            | 22/38 (57.9)     | 7/7 (100.0)           | 132/249 (53.0)   |
| non-anterior n/N (%)                                         | 44/84 (52.4)            | 16/38 (42.1)     | 0/7 (0.0)             | 117/249 (47.0)   |
| <b>ST-segment depression n/N (%)</b>                         | 45/117 (38.5)           | 25/54 (46.3)     | 6/10 (60.0)           | 204/424 (48.1)   |
| <b>LBBB n/N (%)</b>                                          | 11/117 (9.4)            | 5/54 (9.3)       | 1/10 (10.0)           | 69/425 (16.2)    |
| <b>Mean arterial pressure – mmHg</b>                         |                         |                  |                       |                  |
| Median (IQR)                                                 | 78 (63,93)              | 80 (67,104)      | 81 (63,87)            | 73 (63,91)       |

|                                                     |                    |                     |                     |                     |
|-----------------------------------------------------|--------------------|---------------------|---------------------|---------------------|
| <b>Heart rate - beats/min</b>                       |                    |                     |                     |                     |
| Median (IQR)                                        | 79 (61,101)        | 96 (68,112)         | 106 (82,123)        | 92 (78, 107)        |
| <b>Creatinine (umol/l)</b>                          |                    |                     |                     |                     |
| Median (IQR)                                        | 97.0 (77.0, 124.6) | 106.1 (90.0, 128.2) | 155.6 (97.0, 330.2) | 118.2 (95.7, 150.3) |
| <b>N° affected vessels n/N (%)</b>                  |                    |                     |                     |                     |
| 1 n/N (%)                                           | 2/119 (1.7)        | 0/56 (0.0)          | 0/12 (0.0)          | 3/434 (0.7)         |
| 2 n/N (%)                                           | 54/119 (45.4)      | 19/56 (33.9)        | 6/12 (50.0)         | 285/434 (65.7)      |
| 3 n/N (%)                                           | 63/119 (52.9)      | 37/56 (66.1)        |                     |                     |
| <b>Artery with culprit lesion n/N (%)</b>           |                    |                     |                     |                     |
| Left anterior descending                            | 104/119 (87.4)     | 47/56 (83.9)        | 12/12 (100.0)       | 374/435 (86.0)      |
| Left circumflex                                     | 83/119 (69.7)      | 45/56 (80.4)        | 7/12 (58.3)         | 331/435 (76.1)      |
| Right coronary                                      | 87/119 (73.1)      | 44/56 (78.6)        | 10/12 (83.3)        | 338/435 (77.7)      |
| Left main                                           | 15/119 (12.6)      | 8/56 (14.3)         | 3/12 (25.0)         | 74/435 (17.0)       |
| Bypass                                              | 1/119 (0.8)        | 2/56 (3.6)          | 0/12 (0.0)          | 10/435 (2.3)        |
| <b>Left ventricular ejection fraction - %</b>       |                    |                     |                     |                     |
| Median (IQR)                                        | 38 (30,48)         | 30 (21,40)          | 35 (26,40)          | 30 (25, 40)         |
| <b>Primary endpoint of death at 30 days n/N (%)</b> | 25/119 (21.0)      | 16/55 (29.1)        | 8/12 (66.7)         | 263/435 (60.5)      |

IQR= interquartile range; BMI=body mass index; CAD=coronary artery disease GFR=glomerular filtration rate; PCI=percutaneous coronary intervention; CABG=coronary artery bypass graft; LBBB=left bundle branch block.