**Supplemental Table 1. Baseline characteristics of COVID-19 hospitalized patients**

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| **Characteristics of patients** | **Total**  **(n=202)** | **MACE +**  **(n= 60)** | **MACE-**  **(n=142)** | **P value** | **Death +**  **(n= 40)** | **Death -**  **(n= 162)** | **P value** |
| **Demographics** | | | | | | | |
| Age (years) | 64.4±16.7 | 73.3±13.2 | 60.6±16.7 | 0.000 | 76.3±11.2 | 61.4±16.6 | 0.000 |
| Gender (male, %) | 119 (58.9%) | 39 (65%) | 80 (56.3%) | 0.253 | 14 (35%) | 69 (42.6%) | 0.382 |
| BMI (kg/m2) | 27.6±5.4 | 27.2±5.7 | 27.8±5.3 | 0.450 | 27.2±5.6 | 27.7±5.4 | 0.562 |
| **History** | | | | | | | |
| Hypertension (n, %) | 102 (50.7%) | 34 (56.7%) | 68 (48.2%) | 0.273 | 22 (55%) | 80 (49.7%) | 0.548 |
| Dyslipidaemia (n, %) | 83 (41.1%) | 29 (48.3%) | 54 (38%) | 0.174 | 21 (52.5%) | 62 (38.3%) | 0.101 |
| Diabetes mellitus (n, %) | 61 (30.2%) | 25 (41.7%) | 36 (25.4%) | 0.021 | 18 (45%) | 43 (26.5%) | 0.023 |
| Smoking (n, %) | 30 (14.9%) | 10 (16.9%) | 20 (14.1%) | 0.604 | 4 (10.3%) | 26 (16%) | 0.362 |
| Obesity (n, %) | 56 (27.9%) | 13 (22%) | 43 (30.3%) | 0.235 | 9 (23.1%) | 47(29 %) | 0.458 |
| History of STEMI (n, %) | 6 (3%) | 4 (6.7%) | 2 (1.4%) | 0.044 | 3 (7.5%) | 3 (1.9%) | 0.060 |
| History of NSTEMI (n, %) | 4 (2%) | 3 (5%) | 1 (0.7%) | 0.045 | 2 (5 %) | 2 (1.2 %) | 0.126 |
| History of stable angina (n, %) | 7 (3.5%) | 7 (11.7%) | 0 (0%) | 0.000 | 5 (12.5%) | 2 (1.2%) | 0.000 |
| Neurological disease (n, %) | 32 (15.9%) | 10 (16.7%) | 22 (15.6%) | 0.850 | 8 (20%) | 24 (14.9%) | 0.431 |
| Stroke (n, %) | 15(7.4%) | 6 (10%) | 9 (6.3%) | 0.364 | 6 (15%) | 9 (5.6%) | 0.041 |
| Arrhythmias (n, %) | 16(7.9%) | 12 (20%) | 4 (2.8%) | 0.000 | 9 (22.5%) | 7 (4.3%) | 0.000 |
| Chronic kidney disease (n, %) | 29 (14.4%) | 11 (18.3%) | 18 (12.7%) | 0.295 | 9 (22.5%) | 20 (12.3%) | 0.101 |
| Cancer (n, %) | 26  (12.9%) | 8 (13.3%) | 18 (12.7%) | 0.899 | 6 (15%) | 20 (12.3%) | 0.653 |
| Chronic pulmonary disease (n, %) | 32 (15.8%) | 10 (16.7%) | 22 (15.5%) | 0.835 | 8 (20%) | 24 (14.8%) | 0.421 |
| Chronic autoimmune disease (n, %) | 23 (11.5%) | 10 (16.9%) | 13 (9.2%) | 0.118 | 9 (23.1%) | 14 (8.7%) | 0.012 |
| HIV (n, %) | 2 (1% ) | 1 (1.7%) | 1 (0.7%) | 0.528 | 0 (0%) | 2 (1.2%) | 0.480 |
| Organ transplant (n, %) | 1 (0.5%) | 1 (1.7%) | 0 (0%) | 0.124 | 0 (0%) | 1 (0.6%) | 0.617 |
| Dementia(n,% ) | 20 (10%) | 9 (15%) | 11 (7.8%) | 0.119 | 8 (20%) | 12 (7.5%) | 0.018 |
| **Home - medication** | | | | | | | |
| ACE – inhibitors (n, %) | 21 (10.4%) | 11 (18.3%) | 10 (7%) | 0.016 | 8 (20%) | 13 (8%) | 0.026 |
| ARBs (n, %) | 26 (12.9%) | 8 (13.3%) | 18 (12.7%) | 0.899 | 6 (15%) | 20 (12.3%) | 0.653 |
| Antiplatelet therapy (n, %) | 52 (25.7%) | 22 (36.7%) | 30 (21.1%) | 0.021 | 15 (37.5%) | 37 (22.8%) | 0.058 |
| Betablockers (n, %) | 56 (27.7%) | 22 (36.7%) | 34 (23.9%) | 0.065 | 17 (42.5%) | 39 (24.1% ) | 0.020 |
| Statin therapy (n, %) | 41 (20.3%) | 11 (18.3%) | 30 (21.1%) | 0.652 | 7 (17.5%) | 34 (21%) | 0.623 |
| Calcium channel blocker (dihydropyridine) (n,% ) | 38 (18.8%) | 8 (13.3%) | 30 (21.1%) | 0.195 | 5 (12.5%) | 33 (20.4%) | 0.254 |
| History of PCI | 7 (3.5%) | 6 (10%) | 1 (0.7%) | 0.001 | 3 (7.5%) | 4 (2.5%) | 0.119 |
| History of CABG | 9 (4.5%) | 6 (10%) | 3 (2.1%) | 0.013 | 4 (10%) | 5 (3.1%) | 0.058 |
| **Clinical characteristics at admission** | | | | | | | |
| Systolic blood pressure (mmHg ) | 128.8±21.6 | 132.0±24.2 | 127.5±20.3 | 0.211 | 128.0±23.6 | 129.0±21.1 | 0.792 |
| Diastolic blood pressure (mmHg ) | 75.3±17.7 | 74.2±17.5 | 75.8±17.8 | 0.550 | 70.1±17.2 | 76.6±17.6 | 0.037 |
| Mean aterial pressure (mmHg) | 93.0±17.2 | 92.9±18.5 | 93.1±16.7 | 0.972 | 88.7±18.6 | 94.1±16.8 | 0.075 |
| Heart Rate (bpm) | 95.2±20.2 | 94.4±22.6 | 95.6±19.2 | 0.717 | 93.0±19.6 | 95.8±20.4 | 0.442 |
| Temperature (ºC) | 37.5±1.1 | 37.3±1.0 | 37.6±1.1 | 0.063 | 37.4±0.7 | 37.5±1.1 | 0.462 |
| **Laboratory findings** | | | | | | | |
| Hemoglobin (g/dl) | 13.4±1.9 | 13.3±2.1 | 13.4±1.8 | 0.027 | 12.9±2.3 | 13.5±1.7 | 0.138 |
| WBC (103/mm3) | 7.8±4.1 | 8.9±4.7 | 7.3±3.8 | 0.027 | 9.1±5.0 | 7.4±3.8 | 0.060 |
| NL ratio | 8.2±6.6 | 10.7±8.1 | 7.1±5.5 | 0.003 | 12.6±8.7 | 7.1±5.4 | 0.000 |
| Platelets (103/mm3) | 218.0±82.6 | 214.0±89.9 | 219.7±79.5 | 0.653 | 217.2±92.4 | 218.2±80.2 | 0.944 |
| CRP (mg/L) | 141±101.1 | 172.9±106.5 | 127.4±95.9 | 0.003 | 198.8±99.3 | 126.6±96.6 | 0.000 |
| cTn T (µg/L) | 0.09±0.3 | 0.19±0.4 | 0.04±0.2 | 0.032 | 0.27±0.5 | 0.04±0.2 | 0.026 |
| NT pro BNP (ƞg/mL) | 2934.6±11016.8 | 5936.4±16788.4 | 825.3±1488.3 | 0.134 | 8924.7±21074.1 | 895.5±1426.8 | 0.149 |
| Ferritine (µg/L) | 1223.0±1687.8 | 1383.7±2183.4 | 1153.6±1434.2 | 0.522 | 1499.0±2363.6 | 1162.8±1512.7 | 0.434 |
| D – dimer (ƞg/ ml) | 1713.9±2867.3 | 1971.5±2692.5 | 1619.6±2938.9 | 0.568 | 2087.7±2561.7 | 1647.0±2926.0 | 0.562 |
| Creatinine (mg/dL) | 1.2±1.0 | 1.3±0.8 | 1.1±1.1 | 0.182 | 1.4±0.8 | 1.1±1.1 | 0.114 |
| Sodium (mEq/L) | 137.1±4.8 | 137.8±6.9 | 136.9±3.8 | 0.421 | 137.9±5.4 | 137.0±4.7 | 0.367 |
| Potassium (mEq/L) | 3.9±0.5 | 4.1±0.6 | 3.8±0.5 | 0.000 | 4.1±0.6 | 3.8±0.5 | 0.008 |
| **Acid base balance** | | | | | | | |
| pH | 7.45±0.0 | 7.41±0.1 | 7.46±0.0 | 0.078 | 7.41±0.08 | 7.46±0.07 | 0.026 |
| PCO2 (mmHg) | 34.1±6.1 | 35.8±10.5 | 33.7±4.7 | 0.337 | 34.9±14.2 | 37.0±4.9 | 0.838 |
| PaO2 (mmHg) | 75.8±25.5 | 70.4±25.5 | 77.0±25.5 | 0.231 | 73.3±31.8 | 76.0±25.0 | 0.725 |
| HCO3 (mmol/L) | 24.3±3.3 | 24.0±3.9 | 24.0±3.9 | 0.579 | 22.0±4.3 | 24.5±3.2 | 0.019 |
| Base excess (mmol/L) | 1.2±3.7 | 0.5±3.3 | 1.4±3.8 | 0.402 | -1.5±2.8 | 1.4±3.7 | 0.041 |
| Lactate (mEg/L) | 1.1±0.6 | 1.3±0.6 | 1.0±0.6 | 0.136 | 1.4±0.5 | 1.0±0.6 | 0.122 |
| **Electrocardiogram** | | | | | | | |
| PR length (ms) | 153.2±29.7 | 161.1±38.7 | 150.8±26.1 | 0.057 | 159.4±26.3 | 152.1±30.2 | 0.257 |
| QRS length (ms) | 92.7±21.0 | 99±24.3 | 90.3±19.2 | 0.012 | 100. 4±28.4 | 91.0±18.6 | 0.072 |
| QT length (ms) | 369.4±46.5 | 378.3±63.2 | 366.0±38 | 0.193 | 391.2±55.0 | 364.6±43.1 | 0.011 |
| QTc length (ms) | 444.1±34.4 | 458.7±45.2 | 438.5±27.5 | 0.004 | 470.5±36.4 | 438.3±31.2 | 0.000 |
| Sinus rhythm  (n, %) | 170 (84.2%) | 39 (65%) | 131 (92.3%) | 0.000 | 25 (62.5%) | 145 (89.5%) | 0.000 |
| Atrial fibrillation (n, %) | 16(7.9%) | 11 (18.3%) | 5 (3.5%) | 0.000 | 7 (3.5%) | 9 (5.6%) | 0.012 |
| Atrial flutter  (n, %) | 1 (0.5%) | 1 (1.7%) | 0 (0%) | 0.123 | 1 (2.5%) | 0 (0%) | 0.044 |
| **Chest computer tomography** | | | | | | | |
| Septal thickness (n, %) | 19 (10.2%) | 9 (17%) | 10 (7.5%) | 0.052 | 7 (36.8%) | 12 (7.9%) | 0.040 |
| Ground glass opacities (n, %) | 172 (92%) | 46 (86.8%) | 126 (94%) | 0.101 | 32 (88.9%) | 140 (92.7%) | 0.448 |
| Total length of stay (days) | 14±12.3 | 15.1±16.6 | 13.4±9.6 | 0.489 | 10.3±9.3 | 15.0±12.9 | 0.037 |
| Duration of symptoms till hospital admission (days) | 6.8±5.2 | 7.1±7.6 | 6.6±4.0 | 0.684 | 5.3±3.8 | 7.1±5.4 | 0.080 |

BMI: body mass index; STEMI: acute **ST**-elevation myocardial infarction; NSTEMI: acute nonST- myocardial infarction; PCI: percutaneous coronary intervention; CABG: Coronary artery bypass graft surgery; ACEi: Angiotensin-converting enzyme inhibitors; ARB: angiotensin II receptor blockers; WBC: white blood cells; NLR: neutrophil-lymphocyte ratio, CRP: C- reactive protein; cTn T: cardiac troponin T; NT-pro BNP: amino terminal pro-brain natriuretic peptide

**Supplemental Table 2. Comparison between cTn T profiles in COVID-19 hospitalized patients**

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| --- | --- | --- | --- | --- |
| **Characteristics of patients** | **Profile Constant**  **(n=81 )** | **Profile**  **Ascending**  **(n=69 )** | **Profile**  **Descending**  **(n=52 )** | **P value** |
| **Demographics** | | | | |
| Age (years) | 55.1±15.3 | 67.5±14.6 | 74.6±14.0 | 0.000 |
| Gender (male, %) | 46 (56.8 %) | 46 (66.7%) | 27 (51.9%) | 0.233 |
| BMI ( kg/m2) | 28.0±5.7 | 28.1±5.4 | 26.6±4.9 | 0.257 |
| **History** | | | | |
| Hypertension (n, %) | 29 (36.3%) | 38 (55.1%) | 35 (67.3%) | 0.002 |
| Dyslipidaemia (n, %) | 29 (35.8%) | 36 (52.2%) | 18 (34.6%) | 0.069 |
| Diabetes mellitus (n, %) | 19 (23.5%) | 30 (43.5%) | 12 (23.1%) | 0.012 |
| Smoking (n, %) | 11 (13.6%) | 12 (17.4%) | 7 (13.7%) | 0.777 |
| Obesity (n, %) | 26 (32.1%) | 21 (30.9%) | 9 (17.3%) | 0.141 |
| History of STEMI (n, %) | 1 (1.2% ) | 2 (2.9%) | 3 (5.8%) | 0.323 |
| History of NSTEMI (n, %) | 1 (1.2% ) | 3 (4.3%) | 0 (0%) | 0.194 |
| History of stable angina (n, %) | 1 (1.2% ) | 5 (7.2%) | 1 (1.9%) | 0.104 |
| Neurological disease (n, %) | 9 (11.1% ) | 9 (13%) | 14 (27.5%) | 0.032 |
| Stroke (n, %) | 5 (6.2% ) | 4 (5.8%) | 6 (11.5%) | 0.421 |
| Arrhythmias (n, %) | 2 (2.5% ) | 5 (7.2%) | 9 (17.3%) | 0.008 |
| Chronic kidney disease (n, %) | 5 (6.2% ) | 13 (18.8%) | 11 (21.23%) | 0.024 |
| Cancer (n, %) | 7 (8.6% ) | 9 (13%) | 10 (19.2%) | 0.205 |
| Chronic pulmonary disease (n, %) | 9 (11.1% ) | 9 (13%) | 14 (26.9%) | 0.038 |
| Chronic autoimmune disease (n, %) | 9 (11.3% ) | 8 (11.6%) | 6 (11.8%) | 0.995 |
| HIV (n, %) | 2 (2.5% ) | 0 (0%) | 0 (0%) | 0.221 |
| Organ transplant (n, %) | 0 (0% ) | 1 (1.4%) | 0 (0%) | 0.382 |
| Dementia(n,% ) | 2 (2.5% ) | 7 (10.3 ) | 11 (21.2%) | 0.002 |
| **Home - medication** | | | | |
| ACE – inhibitors (n, %) | 5 (6.2%) | 8 (11.6%) | 8 (15.4%) | 0.218 |
| ARBs (n, %) | 7 (8.6%) | 12 (17.4%) | 7 (13.5%) | 0.277 |
| Antiplatelet therapy (n, %) | 11 (13.6%) | 22 (31.9%) | 19 (36.5%) | 0.005 |
| Betablockers (n, %) | 12 (14.8%) | 18 (26.1%) | 26 (50%) | 0.000 |
| Statin therapy (n, %) | 13 (16%) | 15 (21.7%) | 13 (25%) | 0.427 |
| Calcium channel blocker (dihydropyridine) (n, %) | 9 (11.1%) | 13 (18.8%) | 16 (30.8%) | 0.018 |
| History of PCI | 2 (2.5%) | 4 (5.8%) | 1 (1.9%) | 0.421 |
| History of CABG | 0 (0%) | 6 (8.7%) | 3 (5.8%) | 0.032 |
| **Clinical characteristics at admission** | | | | |
| Systolic blood pressure (mmHg ) | 130.0±16.4 | 131.3±25.0 | 123.7±23.4 | 0.135 |
| Diastolic blood pressure (mmHg ) | 79.0±14.7 | 73.3±20.5 | 72.5±17.2 | 0.057 |
| Mean arterial pressure (mmHg) | 95.6±14.3 | 92.6±20.0 | 89.6±17.0 | 0.140 |
| Heart Rate (bpm) | 98.2±21.1 | 92.3±20.0 | 93.6±18.9 | 0.231 |
| Temperature (ºC) | 37.3±0.9 | 37.5±1.0 | 37.7±1.3 | 0.157 |
| **Laboratory findings** | | | | |
| Hemoglobin (g/dl) | 13.8±1.8 | 13.1±1.7 | 12.9±2.0 | 0.011 |
| WBC (103/mm3) | 7.0±3.1 | 8.5±3.9 | 8.0±5.5 | 0.080 |
| NL ratio | 5.4±3.6 | 10.5±7.6 | 9.5±7.2 | 0.000 |
| Platelets (103/mm3) | 209.3±66.7 | 231.1±94.3 | 214.9±87.6 | 0.254 |
| CRP (mg/L) | 106.4±89.7 | 166.7±99.8 | 161.0±106 | 0.000 |
| cTn T (µg/L) | 0.01±0.0 | 0.20±0.5 | 0.08±0.2 | 0.010 |
| NT pro BNP (ƞg/mL) | 286.9±394.4 | 4292.4±15296.4 | 2655.6±4516.7 | 0.532 |
| Ferritine (µg/L) | 1089.3±1754.2 | 1034.1±881.8 | 1630.0±2253.0 | 0.296 |
| D – dimer (ƞg/ ml) | 937.6±1643.9 | 2862.4±4266.7 | 1361.7±858.3 | 0.006 |
| Creatinine (mg/dL) | 0.9±0.3 | 1.3±1.3 | 1.4±1.3 | 0.008 |
| Sodium (mEq/L) | 137.2±3.6 | 137.1±5.9 | 137.1±5.1 | 0.971 |
| Potassium (mEq/L) | 3.9±0.5 | 3.8±0.5 | 3.9±0.6 | 0.794 |
| **Acid base balance** | | | | |
| pH | 7.46±0.0 | 7.45±0.0 | 7.43±0.1 | 0.148 |
| PCO2 (mmHg) | 33.7±4.7 | 34.7±8.2 | 34.3±6 | 0.694 |
| PaO2 (mmHg) | 76.1±19.0 | 71.6±26.1 | 80.5±34.5 | 0.326 |
| HCO3 (mmol/L) | 24.4±3.1 | 24.2±3.1 | 24.5±4.1 | 0.931 |
| Base excess (mmol/L) | 1.4±4.1 | 0.8±3.2 | 1.3±3.5 | 0.678 |
| Lactate (mEg/L) | 0.8±0.4 | 1.4±0.7 | 1.1±0.6 | 0.000 |
| **Electrocardiogram** | | | | |
| PR length (ms) | 154.3±26.1 | 148.9±28.7 | 157.3±36.8 | 0.380 |
| QRS length (ms) | 90.0±17.8 | 94.8±20.4 | 94.4±25.8 | 0.333 |
| QT length (ms) | 361.4±42.4 | 375.4±47.6 | 374.8±50.2 | 0.150 |
| QTc length (ms) | 432.1±31.2 | 453.4±32 | 451.5±36.1 | 0.000 |
| Sinus rhythm (n, %) | 75 (92.6%) | 57 (82.6%) | 38 (73.1%) | 0.010 |
| Atrial fibrillation (n, %) | 3 (3.7%) | 4 (5.8%) | 9 (17.3%) | 0.013 |
| Atrial flutter (n, %) | 0 (0%) | 0 (0%) | 1 (1.9%) | 0.235 |
| **Chest computer tomography** | | | | |
| Septal thickness (n, %) | 2 (2.6%) | 10 (15.9%) | 7 (14.6%) | 0.018 |
| Ground glass opacities (n, %) | 72 (94.7%) | 56 (88.9%) | 44 (91.7%) | 0.448 |
| Total length of stay (days) | 10.0±6.6 | 18.3±14.1 | 14.5±14.8 | 0.000 |
| Duration of symptoms till hospital admission (days) | 7.1 ±4.1 | 5.8±3.6 | 7.6±5.2 | 0.184 |
| Death (n, %) | 4 (4.9%) | 22 (31.9%) | 14 (26.9%) | 0.000 |
| MACE (n, %) | 8 (9.9%) | 30 (43.5 %) | 22 (42.3%) | 0.000 |

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troponin T; NT-pro BNP: amino terminal pro-brain natriuretic peptide; MACE- major cardiovascular events