**Supplementary Table 1. Clinical, radiological, and analytical findings in non-survivors versus survivors with nosocomial COVID-19.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Missing value** | **Non-survivors****(n=432)**  | **Survivors****(n=672)** | ***p* value** |
| Wave, second wave | 0 | 91 (21.1) | 182 (27.1) | **0.24** |
| Age, median [IQR] | 0 | 80 (72-87) | 72 (59-81) | **<0.001** |
| Sex (male) , n (%) | 0 | 272 (63.0) | 380 (56.5) | **0.034** |
| **Degree of dependence** | 26 |  |  | **<0.001** |
|  Independent or mild |  | 236 (55.9) | 516 (78.7) |  |
|  Moderate |  | 109 (21.9) | 90 (13.7) |  |
|  Severe |  | 77 (18.2) | 70 (7.6) |  |
| **Comorbidities** |  |  |  |  |
| CCI, median (IQR) | 21 | 6.0 (5.0-8.0) | 4.0 (3.0-6.0) | **<0.001** |
| Hypertension | 2 | 308 (71.5) | 395 (58.9) | **<0.001** |
| Dyslipidemia | 2 | 231 (53.6) | 284 (42.3) | **<0.001** |
| Non-atherosclerotic heart diseases a  | 1 | 177 (41.1) | 160 (23.8) | **<0.001** |
| Atherosclerotic cardiovascular diseases b  | 1 | 184 42.8) | 143 (21.3) | **<0.001** |
| Diabetes mellitus  | 1 | 157 (36.4) | 164 (24.4) | **<0.001** |
| Obesity | 84 | 94 (23.6) | 135 (21.7) | 0.49 |
| Chronic pulmonary disease c | 4 | 110 (25.6) | 108 (16.1) | **<0.001** |
| Malignancy d | 1 | 130 (30.2) | 137 (20.4) | **<0.001** |
| Dementia | 0 | 93 (19.2) | 70 (10.4) | **<0.001** |
| Chronic kidney disease e | 1 | 87 (20.2) | 62 (9.2) | **<0.001** |
| **Symptoms** |  |  |  |  |
| Dyspnea | 4 | 287 (66.9) | 266 (39.6) | **<0.001** |
| Fever | 9 | 322 (48.4) | 193 (44.9) | 0.252 |
| Cough | 2 | 200 (46.5) | 317 (47.2) | 0.830 |
| Fatigue | 17 | 149 (35.6) | 213 (31.9) | 0.211 |
| Anorexia | 25 | 92 (22.2) | 130 (19.5) | 0.291 |
| Arthralgia-myalgia | 10 | 43 (10.2) | 114 (17.0) | **0.002** |
| Diarrhea | 12 | 51 (12.1) | 113 (16.9) | **0.031** |
| Headache | 18 | 22 (5.3) | 54 (8.1) | 0.082 |
| Nausea/vomiting | 15 | 23 (5.5) | 67 (10.0) | **0.009** |
| Odynophagia | 20 | 18 (4.3) | 53 (7.9) | **0.020** |
| Abdominal Pain | 11 | 17 (1.6) | 53 (7.9) | **0.01** |
| Ageusia | 32 | 4 (0.4) | 51 (7.8) | **<0.001** |
| Anosmia | 32 | 2 (0.2) | 44 (6.7) | 0.215 |
| **Physical examination** |  |  |  |  |
| Oxygen saturation <94% | 35 | 208 (49.8) | 213 (32.7) | **<0.001** |
| Temperature ≥37.8 ºC | 38 | 138 (26.3) | 107 (21.9) | 0.102 |
| Hypotension f | 31 | 55 (13.1) | 51 (7.8) | **0.005** |
| Tachycardia f | 31 | 115 (27.5) | 135 (20.8) | **0.012** |
| Tachypnea f | 25 | 203 (48.7) | 140 (21.1) | **<0.001** |
| Confusion | 4 | 130 (30.2) | 76 (11.3) | **<0.001** |
| Pulmonary rales | 45 | 213 (51.6) | 266 (41.2) | **0.001** |
| Pulmonary rhonchus | 45 | 98 (23.8) | 73 (11.3) | **<0.001** |
| Pulmonary sibilance | 45 | 56 (13.6) | 38 (5.9) | **<0.001** |
| **Chest X-ray findings** | 38 |  |  | **<0.001** |
|  Normal  |  | 94 (22.5) | 234 (36.1) |  |
|  Unilateral infiltrates |  | 82 (19.6) | 135 (20.8) |  |
|  Bilateral infiltrates |  | 242 (57.9) | 279 (43.1) |  |
| **Complete blood count** |  |  |  |  |
| Leukocytes (x103/μL) | 11 | 8.0 (5.5.-11.1) | 6-3 (4.5-9.1) | **<0.001** |
| Neutrophils (x103/μL) | 11 | 6.4 (4.1-9.6) | 4.2 (2.8-6.9) | **<0.001** |
| Lymphocytes (x103/μL) | 11 | 0.85 (0.51-1.30) | 01.00 (0.70-1.35) | **<0.001** |
| Hemoglobin (g/dL) | 11 | 11.5 (9.9-13.2) | 12.3 (10.7-14.0) | **<0.001** |
| Platelet count (x103/μL) | 11 | 189 (143-254) | 201 (148-282) | 0.021 |
| **Arterial blood gases** |  |  |  |  |
|  pH  | 663 | 7,43 (7.37-7.47) | 7.44 (7.40-7.47) | 0.072 |
|  PO2 (mmHg) | 663 | 59 (50-71) | 67 (59-79) | **<0.001** |
|  PO2/FiO2 ratio  | 663 | 228 (171-280) | 300 (247-347) | **<0.001** |
| **Serum biochemistry** |  |  |  |  |
| Glucose (mg/dL) | 50 | 122 (99-167) | 107 (94-129) | **<0.001** |
| eGFR (ml/min/1.73 m2) | 13 | 60 (27-76) | 75 (50-94) | **<0.001** |
| Lactate dehydrogenase (U/L) | 225 | 345 (261-491) | 268 (204-359) | **<0.001** |
| AST (U/L) | 219 | 30 (2-50) | 30 (20-45) | 0.350 |
| ALT (U/L) | 99 | 21 (14-40) | 26 (17-42)  | **<0-001** |
| C-reactive protein (mg/L) | 76 | 90 (22-169) | 42 (13-100) | **<0.001** |
| Venous lactate (mmol/L) | 654 | 1.7 (1.2-2.7) | 1.6 (1.1-2.5) | 0.376 |
| Procalcitonin (ng/mL) | 657 | 0.29 (0.12-0.88) | 0.10 (0.00-0.24) | **<0.001** |
| Interleukin-6 (pg/mL) | 851 | 50 (18-92) | 28 (9-58) | **<0.001** |
| D-dimer (ng/mL) | 361 | 1259 (0689-2368) | 853 (443-1750) | **<0.001** |
| Serum ferritin (μg/L) | 675 | 870 (344-1581) | 470 (253-990) | **<0.001** |

**Footnote**: N (%): number of cases (percentage); IQR: interquartile range; CCI: Charlson Comorbidity Index; qSOFA: quick sequential organ failure assessment; FiO2: fraction of inspired oxygen; eGFR: estimated glomerular filtration rate; ALT: alanine aminotransferase; AST: aspartateaminotransferase;

a Non-atherosclerotic heart disease includes atrial fibrillation and/or heart failure. b Atherosclerotic cardiovascular disease includes coronary, cerebrovascular, and/or peripheral vascular disease. c Chronic pulmonary disease includes chronic obstructive pulmonary diseases and/or asthma. d Malignancy includes solid tumors or hematologic neoplasm. e Chronic kidney disease is defined as an estimated glomerular filtration rate (eGFR) <45 mL/min/1.73 m2 according to the CKD-EPI equation.

f Tachypnea (≥20 breaths per minute), tachycardia (≥100 breaths per minute), and hypotension (systolic blood pressure <100 mmHg).

Statistically significant differences are indicated in bold.

**Supplementary Table 2. Treatment, complications, and outcome in non-survival versus survival patients with nosocomial COVID-19**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Missing value** | **Non-survival****(n=432)**  | **Survival** **(n=672)** | **P-Value** |
| **Immunomodulatory therapy** |  |  |  |  |
| Systemic corticosteroids | 6 | 234 (54.5) | 261 (39.0) | **<0.001** |
| Tocilizumab | 4 | 27 (6.3) | 34 (5.1) | 0.349 |
| Colchicine | 15 | 5 (1.2) | 9 (1.4) | 0.789 |
| Anakinra | 10 | 5 (1.2) | 2 (0.3) | 0.116 |
| Baricitinib | 173 | -0 | 0 |  |
| **Antiviral therapy**  |  |  |  |  |
| Remdesivir | 16 | 16 (3.8) | 44 (6.6) | 0.041 |
| Immunoglobulin | 11 | 5 (1.2) | 2 (0.3) | 0.117 |
| **Antibiotic therapy** |  |  |  |  |
| Beta lactam | 5 | 334 (77.7) | 418 (62.5) | **<0.001** |
| Macrolides | 7 | 162 837.8) | 282 (42.2) | 0.143 |
| Quinolone | 12 | 70 (15.5) | 99 (14.8) | 0.468 |
| **Anticoagulant therapy** |  |  |  |  |
| Oral anticoagulants\* | 7 | 45 (10.5) | 48 (7.2) | 0.055 |
| Low-molecular-weight heparin | 8 |  |  | **<0.001** |
|  No |  | 88 (20.1) | 114 (17.1) |  |
|  Low doses |  | 214 (50) | 423 (63.3) |  |
|  Intermediate doses |  | 46 (10.7) | 39 (5.8) |  |
|  Higher doses |  | 82 (19.2) | 92 (13.8) |  |
| **Ventilatory therapy**  |  |  |  |  |
| High-flow nasal cannula oxygen | 9 | 56 (13.1) | 45 (6.7) | **<0.001** |
| Non-invasive mechanical ventilation | 9 | 43 (10.0) | 19 (2.8) | **0.001** |
| Invasive mechanic ventilation  | 10 | 30 (7.0) | 20 (3.0) | **0.002** |
| **Outcome** |  |  |  |  |
| Readmission |  |  |  |  |
| Intensive care unit admission | 2 | 46 (10.7) | 27 (4.0) | **<0.001** |
| In-hospital mortality |  |  |  |  |
| **Complications** |  |  |  |  |
| ARDS moderate/severe | 8 | 271 (63.5) | 57 (8.5) | **<0.001** |
| Acute kidney failure | 6 | 157 (36.6) | 74 (11.1) | **<0.001** |
| Pneumonia | 4 | 87 (20.3) | 58 (8.5) | **<0.001** |
| Acute heart failure | 5 | 101 (23.6) | 49 (7.3) | **<0.001** |
| Sepsis | 5 | 92 (21.4) | 28 (4.2) | **<0.001** |
| Multiple organ dysfunction syndrome | 5 | 106 (24.7) | 4 (0.6) | **<0.001** |
| Arrhythmia | 5 | 41 (9.6) | 31 (4.6) | **0.001** |
| Shock | 6 | 56 (13.1) | 4 (0.6) | **<0.001** |
| Venous thromboembolism | 4 | 11 (2.6) | 23 (3.4) | 0.478 |
| Intravascular coagulation | 6 | 8 (1.9) | 4 (0.6) | 0.070 |
| Stroke | 6 | 11 (2.6) | 9 (1.3) | 0.141 |
| Myocarditis | 4 | 10 (2.3) | 4 (0.6) | **0.012** |
| Acute coronary syndrome | 5 | 7 (1.6) | 7 (1.0) | 0.393 |
| Epileptic seizures | 4 | 1 (1.9) | 1 (0.1) | **0.002** |
| Acute peripheral ischemia | 9 | 6 (1.4) | 4 (0.6) | 0.167 |

Footnote: ARDS: Acute respiratory distress syndrome

Statistically significant differences are indicated in bold