Supplementary Appendix

Table S1: Risk of Mortality, Unadjusted and Adjusted Analyses of Hospitalized Patients with COVID-19, Southeast United States; Individual Comorbidities

|  |  |  |
| --- | --- | --- |
| **Covariate** | **Univariate (Unadjusted)** | **Multivariate (Adjusted)** |
|  | ORa (95% CIb) | p-value | ORa (95% CIb) | p-value |
| **Age (per decade)** | 2.13 (1.74-2.65) | <0.01 | 2.07 (1.57-2.79) | <0.01 |
| **Gender (male)** | 1.81 (1.09-3.07) | 0.02 | 2.48 (1.34-4.75) | <0.01 |
| **Race/Ethnicity** |  |  |  |  |
|  Caucasian | Refc | -- | Refc | -- |
|  African American | 0.49 (0.30-0.81) | <0.01 | 0.74 (0.40-1.37) | 0.34 |
| **BMI**d |  |  |  |  |
|  <18.5 | 1.39 (0.29-5.22) | 0.65 | 1.45 (0.25-6.84) | 0.65 |
|  18.5 to <25 | Refc | -- | Refc | -- |
|  25 to <30 | 0.93 (0.46-1.86) | 0.83 | 1.26 (0.55-2.95) | 0.59 |
|  30 to <40 | 0.55 (0.28-1.10) | 0.09 | 0.99 (0.43-2.32) | 0.98 |
|  ≥40 | 0.85 (0.36-1.92) | 0.70 | 1.67 (0.56-4.97) | 0.35 |
| **Co-morbidities** |  |  |  |  |
|  Coronary vascular disease | 2.61 (1.44-4.64) | <0.01 | 0.89 (0.42-1.85) | 0.76 |
|  Congestive heart failure | 3.60 (1.99-6.42) | <0.01 | 1.31 (0.59-2.86) | 0.50 |
|  Cardiac arrhythmia | 4.85 (2.60-8.97) | <0.01 | 1.67 (0.76-3.63) | 0.19 |
|  Other cardiovascular disease | 1.69 (0.69-3.74) | 0.22 | 1.20 (0.41-3.26) | 0.73 |
|  COPDe | 3.38 (1.55-7.12) | <0.01 | 1.58 (0.60-3.99) | 0.34 |
|  Asthma | 0.58 (0.20-1.40) | 0.27 | 0.87 (0.25-2.56) | 0.81 |
|  Other lung disease | 2.36 (0.81-6.11) | 0.09 | 3.35 (0.97-10.67) | 0.05 |
|  Chronic kidney disease | 2.61 (1.34-4.93) | <0.01 | 1.44 (0.60-3.35) | 0.40 |
|  End stage renal disease | 0.67 (0.16-2.00) | 0.53 | 0.32 (0.04-1.36) | 0.17 |
|  Stroke | 1.81 (0.89-3.48) | 0.09 | 1.31 (0.57-2.89) | 0.52 |
|  Hypertension | 1.83 (1.07-3.23) | 0.03 | 0.80 (0.39-1.63) | 0.53 |
|  Diabetes mellitus | 1.43 (0.86-2.37) | 0.16 | 1.45 (0.75-2.83) | 0.27 |
|  Peripheral vascular disease | 2.01 (0.89-4.22) | 0.07 | 1.40 (0.54-3.48) | 0.48 |
|  Connective tissue disorder | 4.22 (1.89-9.21) | <0.01 | 2.88 (1.12-7.33) | 0.03 |
|  Liver disease | 1.79 (0.39-6.15) | 0.39 | 2.14 (0.40-9.04) | 0.33 |
|  Smoking | 0.87 (0.20-2.66) | 0.83 | 1.07 (0.21-4.19) | 0.93 |
|  Immunocompromised | 1.36 (0.62-2.76) | 0.41 | 1.74 (0.68-4.20) | 0.23 |

aOR, odds ratio

bCI, confidence interval

cRef, reference

dBMI, body mass index

eCOPD, chronic obstructive pulmonary disease

Table S2: Risk of Severe Disease+, Unadjusted and Adjusted Analyses of Hospitalized Patients with COVID-19, Southeast United States; Individual Comorbidities

|  |  |  |
| --- | --- | --- |
| **Covariate** | **Univariate (Unadjusted)** | **Multivariate (Adjusted)** |
|  | ORa (95% CIb) | p-value | ORa (95% CIb) | p-value |
| **Age (per decade)** | 1.34 (1.20-1.52) | <0.01 | 1.14 (0.99-1.31) | 0.07 |
| **Gender (male)** | 2.02 (1.39-2.94) | <0.01 | 2.33 (1.53-3.60) | <0.01 |
| **Race/Ethnicity** |  |  |  |  |
|  Caucasian | Refc | -- | Refc | -- |
|  African American | 0.81 (0.56-1.19) | 0.28 | 1.15 (0.74-1.78) | 0.54 |
| **BMI**d |  |  |  |  |
|  <18.5 | 0.66 (0.14-2.37) | 0.54 | 0.86 (0.17-3.43) | 0.84 |
|  18.5 to <25 | Refc | -- | Refc | -- |
|  25 to <30 | 1.38 (0.80-2.39) | 0.24 | 1.82 (0.98-3.41) | 0.06 |
|  30 to <40 | 0.97 (0.58-1.64) | 0.91 | 1.37 (0.76-2.52) | 0.30 |
|  ≥40 | 1.19 (0.62-2.26) | 0.59 | 2.00 (0.94-4.30) | 0.07 |
| **Co-morbidities** |  |  |  |  |
|  Coronary vascular disease | 1.83 (1.11-3.01) | 0.02 | 1.08 (0.58-1.98) | 0.81 |
|  Congestive heart failure | 1.81 (1.09-3.01) | 0.02 | 1.23 (0.64-2.33) | 0.53 |
|  Cardiac arrhythmia | 2.61 (1.48-4.64) | <0.01 | 2.01 (1.04-3.92) | 0.04 |
|  Other cardiovascular disease | 1.19 (0.59-2.33) | 0.61 | 0.98 (0.46-2.03) | 0.95 |
|  COPDe | 1.36 (0.65-2.76) | 0.40 | 0.95 (0.41-2.16) | 0.90 |
|  Asthma | 0.70 (0.35-1.31) | 0.28 | 0.78 (0.36-1.59) | 0.50 |
|  Other pulmonary disease | 1.12 (0.43-2.70) | 0.81 | 1.06 (0.38-2.81) | 0.91 |
|  Chronic kidney disease | 1.41 (0.79-2.47) | 0.23 | 0.93 (0.47-1.81) | 0.83 |
|  End stage renal disease | 1.41 (0.66-2.96) | 0.37 | 1.13 (0.47-2.65) | 0.78 |
|  Stroke | 1.37 (0.78-2.38) | 0.27 | 0.92 (0.48-1.75) | 0.81 |
|  Hypertension | 1.43 (0.98-2.09) | 0.06 | 1.11 (0.69-1.80) | 0.66 |
|  Diabetes mellitus | 1.35 (0.92-1.98) | 0.12 | 1.17 (0.74-1.85) | 0.50 |
|  Peripheral vascular disease | 1.46 (0.74-2.83) | 0.27 | 1.11 (0.51-2.36) | 0.79 |
|  Connective tissue disorder | 2.12 (1.03-4.44) | 0.04 | 1.60 (0.72-3.58) | 0.25 |
|  Liver disease | 2.58 (0.85-8.64) | 0.10 | 2.34 (0.71-8.36) | 0.17 |
|  Smoking | 1.33 (0.55-3.13) | 0.52 | 1.54 (0.59-3.97) | 0.37 |
|  Immunocompromised | 1.66 (0.94-2.94) | 0.08 | 1.93 (1.03-3.61) | 0.04 |

+Severe disease, defined as a composite of ICU admission or requirement of mechanical ventilation

aOR, odds ratio

bCI, confidence interval

cRef, reference

dBMI body mass index

eCOPD, chronic obstructive pulmonary disease

Table S3 Mortality by Age

