**Mortality and pulmonary embolism in Acute Respiratory Distress Syndrome from COVID-19 versus**

**non-COVID-19**

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**Supplementary Appendix**

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**e-Figure 1a.** Association between respiratory system compliance (ml/cm H20) and the recruitment-to-inflation ratio (RI ratio) in 42 patients with COVID-19 and suffering from ARDS.

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**e-Figure 1b.** Association between respiratory system compliance and PaO2/FIO2 ratio in 42 patients with COVID-19 and suffering from ARDS.

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**e-Figure 1c.** Association between respiratory system compliance and recruitment-to-inflation ratio in 43 patients with ARDS from etiologies not related to COVID-19.



**e-Figure 2.** Receiver operator characteristic curves assessing the performance of the ventilatory ratio (VR) and D-dimer in predicting the development of pulmonary embolism in the combined cohort of 85 patients with COVID-19 and ARDS of other etiologies. The area under the receiver operator curve was larger using D-dimer as a diagnostic test for pulmonary embolism however it did not achieve statistical significance, P = 0.24.

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **WBC/Lymphocyte** | **CRP, mg/l** | **Ferritin, ng/ml** | **D-dimers mcg/ml** | **IL-6, pg/ml** | **PaO2/FIO2** | **Compliance, ml/cm H20** |
| **WBC/Lymphocyte, cells/mm3** | 1.000 |  |  |  |  |  |  |
| **CRP, mg/l** | 0.2712(0.01)\* | 1.000 |  |  |  |  |  |
| **Ferritin, ng/ml** | 0.5785(<0.001)\* | 0.2812(0.009)\* | 1.000 |  |  |  |  |
| **D-dimers, mcg/ml** | 0.7135(<0.001)\* | 0.3753(<0.001)\* | 0.6507(<0.001)\* | 1.000 |  |  |  |
| **IL-6, pg/ml** | 0.8381(<0.001)\* | 0.3064(0.004)\* | 0.6233(<0.001)\* | 0.7174(<0.001)\* | 1.000 |  |  |
| **PaO2/FIO2** | -0.3572(<0.001)\* | -0.2190(0.04)\* | -0.4717(<0.001)\* | -0.4931(<0.001)\* | -0.4208(<0.001)\* | 1.000 |  |
| **Compliance****ml/cmH20** | -0.1738(0.11) | 0.0817(0.46) | -0.2335(0.03)\* | -0.1989(0.07) | -0.0570(0.60) | 0.2262(0.04)\* | 1.000 |
| **RI ratio** | -0.3299(0.002)\* | -0.4151(<0.001)\* | -0.3255(0.002)\* | -0.3932(<0.001)\* | -0.2644(0.01)\* | 0.1610(0.14) | 0.2122(0.05)\* |
| **VR** | 0.5539(<0.001)\* | 0.2091(0.05)\* | 0.4333(<0.001)\* | 0.5098(<0.001)\* | 0.5237(<0.001)\* | -0.4563(<0.001)\* | -0.1648(0.13) |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | **RI ratio** | **VR** |  |  |  |  |  |
| **RI ratio** | 1.000 |  |  |  |  |  |  |
| **VR** | -0.3809(<0.001) | 1.000 |  |  |  |  |  |

**e-Table 1.** Correlation between laboratory measures of inflammation and coagulation and respiratory mechanics. Values represent Spearman’s correlation coefficient. Values in brackets represent the P-values of the Spearman’s correlation coefficient.

\* P values ≤ 0.05 were statistically significant

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| --- | --- | --- | --- | --- | --- | --- |
| **Characteristics** | **Univariate odds ratio****(95% CI) †** | **p-value** | **Model 2****Odds ratio****(95% CI) †** | **p-value** | **Model 3****Odds ratio****(95% CI) †** | **p-value** |
| **APACHE II** | 3.31 (1.87-5.87) | <0.001 \* |  |  |  |  |
| **Non-COVID-19 ARDS** | 0.29 (0.10-0.85) | 0.02 \* | 2.28 (0.34-15.11) | 0.39 | 4.67 (0.56-38.95) | 0.16 |
| **Respiratory compliance, ml/cm H20** | 0.82 (0.69-0.97) | 0.02 \* | 0.88 (0.69-1.14) | 0.34 | 1.12 (0.81-1.53) | 0.50 |
| **Ventilatory ratio, per 0.10 units** | 3.03 (1.79-5.11) | <0.001 \* |  |  |  |  |
| **PaO2/FiO2 ratio** | 0.97 (0.96-0.99) | <0.001 \* | (0.95 (0.92-0.99) | 0.007\* | 0.95 (0.92-0.99) | 0.007\* |
| **D-Dimer, (mcg/ml, normal: < 1)** | 1.84 (1.40-2.43) | <0.001 \* |  |  | 7.26 (1.11-47.30) | 0.04\* |
| **Interleukin-6, (pg/ml, normal: 1-7)** | 1.01 (1.00-1.01) | 0.001 \* | 1.02 (1.00- 1.03) | 0.05\* |  |  |

**e-Table 2.** Univariate and multivariate logistic regression analysis of predictors of 60-day mortality in eighty-five COVID-19 and non-COVID-19 ARDS patients.

Definition of abbreviations: APACHE II score: Acute Physiology and Chronic Health Evaluation II score, PaO2/FiO2 ratio: partial arterial pressure of oxygen to fractional inspired concentration of oxygen ratio, Ventilatory ratio = [minute ventilation (ml/min) x PaCO2 (mmHg)] / (predicted body weight x 100 x 37.5).

\*P values ≤ 0.05 were statistically significant (comparisons between the COVID-19 versus the non-COVID-19 group of patients).

† CI indicates the 95% confidence interval