Supplemental Table 1. Comorbidities of the cohort.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **COVID-19 Negative** | **COVID-19 Positive** |  |
|  | N | (%) | N | (%) | *P-value* |
|  | 432 | (92.3) | 36 | (7.7) |  |
| *Comorbidities* |  |  |  |  |  |
| Asthma | 28 | (6.5) | 7 | (19.4) | 0.009 |
| Chronic obstructive pulmonary disease | 17 | (3.9) | 3 | (8.3) | 0.13 |
| Pulmonary hypertension | 8 | (1.9) | 2 | (5.6) | 0.14 |
| Seizure | 8 | (1.9) | 2 | (5.6) | 0.14 |
| CVA/TIA | 31 | (7.2) | 3 | (8.3) | 0.24 |
| Hypertension | 203 | (47.0) | 18 | (50.0) | 0.73 |
| Hyperlipidemia | 133 | (30.8) | 11 | (30.6) | 0.98 |
| Coronary artery disease | 52 | (12.0) | 11 | (30.6) | 0.003 |
| Congestive heart failure | 40 | (9.3) | 4 | (11.1) | 0.20 |
| Arrhythmia | 33 | (7.6) | 2 | (5.6) | 0.26 |
| Peripheral vascular disease | 22 | (5.1) | 6 | (16.7) | 0.01 |
| History of cancer | 149 | (34.5) | 10 | (27.8) | 0.41 |
| Diabetes mellitus | 73 | (16.9) | 13 | (36.1) | 0.004 |
| Chronic kidney disease | 33 | (7.6) | 3 | (8.3) | 0.24 |
| End stage renal disease | 17 | (3.9) | 5 | (13.9) | 0.02 |
| Organ transplant | 13 | (3.0) | 1 | (2.8) | 0.39 |
| *Functional status* |  |  |  |  | 0.57 |
| Independent | 393 | (91.0) | 31 | (86.1) |  |
| Partially dependent | 38 | (8.8) | 5 | (13.9) |  |
| Totally dependent | 1 | (0.2) | 0 | - |  |
| *Body mass index* |  |  |  |  | 0.69 |
| Normal | 183 | (42.4) | 12 | (33.3) |  |
| Overweight | 132 | (30.6) | 14 | (38.9) |  |
| Obese | 116 | (26.9) | 10 | (27.8) |  |
| Unknown | 1 | (0.23) | 0 | - |  |
| *Tobacco use* |  |  |  |  | 0.001 |
| Current smoker | 34 | (7.9) | 0 | - |  |
| Former smoker | 117 | (27.1) | 11 | (30.6) |  |
| Never smoker | 249 | (57.6) | 16 | (44.4) |  |
| Unknown | 32 | (7.4) | 9 | (25.0) |  |

Supplemental Table 2. Stratified analyses of outcomes categorized by ASA classification and urgency of surgery among COVID-19 positive and negative patients.

|  |  |  |  |
| --- | --- | --- | --- |
|   | **ICU admission** | **Serious complication** | **Death** |
|   | **N (%)** | **RR (95%CI)** | **N (%)** | **RR (95%CI)** | **N (%)** | **RR (95%CI)** |
| **Overall** |   |   |   |   |  |   |
| *COVID-19 diagnosis* |   |   |   |   |  |   |
| Negative/ (N=432) | 71 (16.4) | Referent | 26 (6.0) | Referent | 6 (1.4) | Referent |
| Positive (N=36) | 13 (36.1) | 2.20 (1.27-3.79)\* | 21 (58.3) | 9.69 (9.10, 10.32)\*\* | 6 (16.7) | 12.00 (9.28, 15.51)\*\* |
| **ASA class 1-2** |   |   |   |   |  |   |
| *COVID-19 diagnosis* |   |   |   |   |  |   |
| Negative (N=173) | 7 (4.1) | Referent | 2 (1.2) | Referent | 1 (0.6) | -1 |
| Positive (N=13) | 1 (7.7) | 1.90 (0.46-7.85) | 3 (23.1) | 19.96 (2.19- 181.93)\* | 0 (0.0) | - |
| **ASA class 3** |   |   |   |   |  |   |
| *COVID-19 diagnosis* |   |   |   |   |  |   |
| Negative (N=217) | 39 (18.0) | Referent | 14 (6.5) | Referent | 3 (1.4) | Referent |
| Positive (N=13) | 3 (23.1) | 1.28 (0.79-2.08) | 9 (69.2) | 10.73 (7.23- 15.94)\*\* | 3 (23.1) | 16.69 (4.08-68.26)\*\*   |
| **ASA class 4-5** |   |   |   |   |  |   |
| *COVID-19 diagnosis* |   |   |   |   |  |   |
| Negative (N=42) | 25 (59.5) | Referent | 10 (23.8) | Referent | 2 (4.8) | Referent |
| Positive (N=10) | 9 (90.0) | 1.51 (0.83-2.75) | 9 (90.0) | 3.78 (2.32- 6.16)\*\* | 3 (30.0) | 6.30 (0.70-56.35) |
| **Urgent surgery**  |  |  |  |  |  |  |
| *COVID-19 diagnosis* |  |  |  |  |  |  |
| Negative (N=330) | 45 (13.6) | Referent | 13 (3.9) | Referent | 1 (0.3) | Referent |
| Positive (N=24) | 7 (29.2) | 2.14 (0.98-4.69) | 14 (58.3) | 14.81 (14.53-15.09)\*\* | 4 (16.7) | 55.00 (17.22-175.66)\*\* |
| **Emergent surgery**  |  |  |  |  |  |  |
| *COVID-19 diagnosis* |  |  |  |  |  |  |
| Negative (N=102) | 26 (25.5) | Referent | 13 (12.8) | Referent | 5 (4.9) | Referent |
| Positive (N=12) | 6 (50.0) | 1.96 (1.90-2.02)\*\* | 7 (58.3) | 4.58 (3.87-5.41)\*\* | 2 (16.7) | 3.40 (0.68-17.03) |

\*P-value<0.05;\*\* P-value<0.0001.

1Model failed to converge due to small numers of events.

Supplemental Table 3. Perioperative outcomes modeled based on COVID-19 status and ASA classification.

|  |  |  |  |
| --- | --- | --- | --- |
|  | ICU admission | Serious complication | Death |
|  | Unadjusted | Adjusted | Unadjusted | Adjusted | Unadjusted | Adjusted1 |
| *COVID-19 diagnosis* |  |  |  |  |  |  |
| Negative | Referent | Referent | Referent | Referent | Referent | Referent |
| Positive | 2.20 (1.27-3.79)\* | 1.47 (1.00-2.16) | 9.69 (9.10, 10.32)\*\* | 7.42 (5.45-10.11)\*\* | 12.00 (9.28-15.51)\*\* | 9.29 (5.68-15.21)\*\* |
| *ASA Class* |  |  |  |  |  |  |
| 1-2 | - | Referent | - | Referent | - | Referent |
| 3 | - | 4.27 (3.56-5.13)\*\* | - | 3.95 (3.06-5.10)\*\* | - | 5.22 (0.51-52.91) |
| 4-5 | - | 14.40 (5.86-35.41)\*\* | - | 8.81 (7.03-11.05)\*\* | - | 10.89 (0.87-135.66) |

\*P-value<0.05;\*\* P-value<0.0001. Values represent risk ratios (95% confidence intervals).

Supplemental Table 4. Perioperative outcomes stratified by COVID-19 status for patients who had a COVID-19 positive test within 14 days of surgery.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **COVID-19 Negative** | **COVID-19 Positive** |  |
|  | N | (%) | N | (%) | *P-value* |
| *Operative time (minutes)* |  |  |  |  | 0.41 |
| <60 minutes | 160 | (36.8) | 14 | (42.4) |  |
| 61-120 minutes | 119 | (27.4) | 9 | (27.3) |  |
| 121-180 minutes | 73 | (16.8) | 2 | (6.1) |  |
| >180 minutes | 83 | (19.1) | 8 | (24.2) |  |
| *Estimated blood loss* |  |  | 0.79 |
| <500 cc | 405 | (93.1) | 30 | (90.9) |  |
| 500-1000 cc | 23 | (5.3) | 2 | (6.1) |  |
| >1000 cc | 5 | (1.2) | 1 | (3.0) |  |
| Unknown | 2 | (0.5) | 0 | - |  |
| *Transfusion* |  |  |  |  |  |
| Intraoperative | 27 | (6.2) | 6 | (18.2) | 0.01 |
| Postoperative | 34 | (7.80 | 8 | (24.2) | 0.002 |
| *Complications* |  |  |  |  |  |
| Surgical site infection | 5 | (1.2) | 1 | (3.0) | 0.30 |
| Abscess | 3 | (0.7) | 0 | - | 0.80 |
| Myocardial infarction | 0 | - | 1 | (3.0) | 0.07 |
| Cardiac arrest | 6 | (1.4) | 5 | (15.2) | 0.0004 |
| Sepsis/shock | 4 | (0.9) | 5 | (15.2) | <0.0001 |
| Respiratory failure | 12 | (2.8) | 11 | (33.3) | <0.0001 |
| Pneumonia | 16 | (3.7) | 14 | (42.4) | <0.0001 |
| Acute respiratory distress syndrome | 0 | - | 3 | (9.1) | 0.0003 |
| Deep vein thrombosis/pulmonary embolism | 4 | (0.9) | 0 | - | 0.75 |
| Stroke | 1 | (0.2) | 1 | (3.0) | 0.13 |
| Acute kidney injury | 16 | (3.7) | 7 | (21.2) | 0.0004 |
| Serious complication\* | 29 | (6.7) | 18 | (54.6) | <0.0001 |
| *Reoperation* | 17 | (3.9) | 1 | (3.0) | 0.37 |
| *Oxygen therapy* | 73 | (16.8) | 11 | (33.3) | <0.0001 |
| *ICU admission* | 67 | (15.4) | 16 | (48.5) | 0.01 |
| *In hospital mortality* | 6 | (1.4) | 6 | (18.2) | <0.0001 |

\*Serious complications defined as myocardial infarction, cardiac arrest, sepsis/shock, respiratory failure, stroke, pneumonia or DVT/PE.