

Supplementary Material

Supplementary Table S1. Comparison of laboratory parameters between the study groups.

| Variables | Inhalation Type | | | | <i>p</i> -Value * |
|---|---|---|--|---|-------------------|
| | Control Group - No Inhalation (n=52; 29.7%) | N-Acetylcysteine Inhalation (n=39; 22.3%) | 5% Saline Inhalation (n=42; 24.0%) | 8.4% Sodium Bicarbonate Inhalation (n=42; 24.0%) | |
| pH (initial) | 7.45 (7.44-7.50) | 7.46 (7.42-7.52) | 7.45 (7.43-7.49) | 7.48 (7.45-7.50) | 0.622 |
| pCO₂ (kPa; initial) | 4.5 (4.1-5.6) | 4.6 (4.1-5.8) | 4.7 (4.2-5.1) | 4.4 (4.3-4.8) | 0.344 |
| pO₂ (kPa; initial) | 5.9 (5.5-6.8) | 6.7 (5.9-7.6) | 6.4 (5.1-7.9) | 6.5 (5.9-7.5) | 0.486 |
| SpO₂ (%; initial) | 82.8 (78.2-88.7) | 82.9 (79.9-89.4) | 86.5 (75.7-89.5) | 86.1 (81.5-90.4) | 0.583 |
| HCO₃ (mmol/l; initial) | 25.3 (23.7-27.6) | 24.6 (22.0-28.6) | 24.5 (22.0-26.0) | 25.8 (23.1-27.8) | 0.316 |
| Base excess (initial) | 1.0 (-0.9-5.0) | 1.3 (-1.7-5.9) | -0.5 (-2.2-3.8) | 3.4 (-1.8-4.3) | 0.546 |
| hsTnT (maximal) | 20.4 (14.5-39.4) | 14.5 (9.8-66.1) | 17.4 (11.8-25.6) | 18.5 (10.8-38.6) | 0.555 |
| NTproBNP (maximal) | 848.0 (399.0-2003.5) | 1142.0 (353.0-1726.5) | 567.0 (251.3- 1254.8) | 633.5 (281.0-4490.0) | 0.406 |
| Red blood cells (x10¹²) | 4.5 (4.2-4.8) | 4.0 (3.8-4.5) | 4.6 (4.3-4.9) | 4.5 (4.1-5.3) | 0.288 |
| Hemoglobin (g/l) | 136.0 (121.5-148.5) | 116.5 (108.3-132.3) | 131.0 (124.5-149.8) | 130.5 (122.5-153.5) | 0.099 |
| MCV (fl) | 90.3 (87.7-92.3) | 89.5 (84.4-91.3) | 87.1 (84.5-91.2) | 90.6 (86.6-94.4) | 0.652 |
| RDW | 13.9 (13.2-14.5) | 13.7 (13.4-14.6) | 13.5 (12.9-13.8) | 13.7 (13.0-14.2) | 0.537 |
| Platelets (x10⁹) | 214.0 (165.5-286.0) | 331.0 (143.3-456.3) | 275.5 (202.5-339.3) | 262.5 (222.3-323.3) | 0.201 |

| | | | | | |
|--|---------------------|---------------------|---------------------|---------------------|-------|
| WBC (x10⁹) | 9.3 (7.1-13.0) | 8.3 (5.3-13.9) | 9.3 (6.9-11.8) | 9.1 (7.3-14.2) | 0.188 |
| Neutrophiles (x10⁹) | 8.0 (5.9-11.4) | 6.8 (4.5-12.8) | 7.5 (5.3-10.5) | 7.8 (5.1-16.0) | 0.372 |
| Lymphocytes (x10⁹) | 0.6 (0.3-0.8) | 0.6 (0.4-0.9) | 0.6 (0.4-1.1) | 0.5 (0.4-0.9) | 0.763 |
| CRP (mmol/l; initial) | 93.4 (47.6-116.0) | 99.3 (53.3-156.3) | 78.9 (60.4-127.0) | 77.2 (50.2-135.51) | 0.080 |
| CRP (mmol/l; maximal) | 222.5 (137.2-330.3) | 228.0 (153.5-288.8) | 160.9 (98.5-260.6) | 183.1 (151.6-257.4) | 0.666 |
| BUN (mmol/l; initial) | 9.6 (7.3-12.7) | 9.3 (5.4-14.8) | 8.4 (7.6-10.3) | 9.1 (6.7-13.8) | 0.768 |
| Creatinine (umol/l; initial) | 90.0 (76.5-112.0) | 66.5 (46.8-107.0) | 79.0 (71.0-91.8) | 82.0 (62.3-151.3) | 0.593 |
| eGFR (ml/min/1.73 m²; initial) | 73.9 (52.1-87.0) | 79.1 (58.2-101.4) | 86.6 (70.2-91.6) | 84.0 (41.7-98.1) | 0.723 |
| AST (mmol/l; initial) | 53.0 (38.5-92.0) | 43.0 (35.3-60.3) | 40.0 (32.3-70.3) | 56.5 (37.3-75.3) | 0.318 |
| ALT (mmol/l; initial) | 52.0 (31.0-72.5) | 42.5 (23.8-52.0) | 37.0 (24.3-55.0) | 43.5 (23.8-61.3) | 0.318 |
| GGT (mmol/l; initial) | 64.0 (36.0-113.0) | 55.0 (31.0-100.0) | 66.5 (29.5-82.8) | 41.0 (24.3-75.3) | 0.190 |
| LDH (mmol/l; initial) | 548.0 (374.5-648.5) | 528.0 (431.5-718.3) | 486.0 (415.3-634.0) | 589.0 (447.5-713.0) | 0.580 |
| D-dimers (mmol/l; initial) | 1.4 (0.8-5.0) | 1.6 (0.7-10.4) | 1.3 (0.8-5.7) | 7.7 (2.1-16.6) | 0.223 |
| INR (units) | 1.0 (0.9-1.1) | 1.0 (0.9-1.1) | 1.0 (0.9-1.1) | 1.0 (1.0-1.2) | 0.390 |
| Sodium (mmol/l) | 138.0 (134.0-140.5) | 139.5 (137.0-142.3) | 137.5 (133.0-141.8) | 139.0 (137.8-141.8) | 0.773 |
| Chloride (mmol/l) | 100.0 (92.5-104.0) | 104.5 (99.8-106.0) | 100.5 (95.5-103.8) | 102.0 (98.8-105.0) | 0.728 |
| Potassium (mmol/l) | 4.3 (3.9-4.8) | 4.1 (3.6-4.5) | 4.4 (3.9-4.6) | 4.1 (3.8-4.7) | 0.852 |
| Calcium (mmol/l) | 2.0 (1.9-2.1) | 2.0 (1.7-2.0) | 1.9 (1.9-2.0) | 1.9 (1.9-2.0) | 0.797 |
| Phosphorus (mmol/l) | 1.0 (0.8-1.3) | 1.1 (0.7-1.3) | 1.0 (0.9-1.2) | 1.3 (0.8-1.5) | 0.712 |
| Protein (g/l) | 57.0 (53.0-63.0) | 54.5 (51.5-58.3) | 58.5 (54.0-62.3) | 57.5 (53.8-63.0) | 0.182 |
| Albumin (g/l) | 29.2 (28.1-32.0) | 27.5 (25.1-32.1) | 30.2 (29.9-32.9) | 29.9 (27.1-32.4) | 0.154 |

Glucose (mmol/l)

10.4 (7.2-13.3)

8.1 (6.4-12.2)

9.8 (7.2-13.9)

7.9 (7.5-10.9)

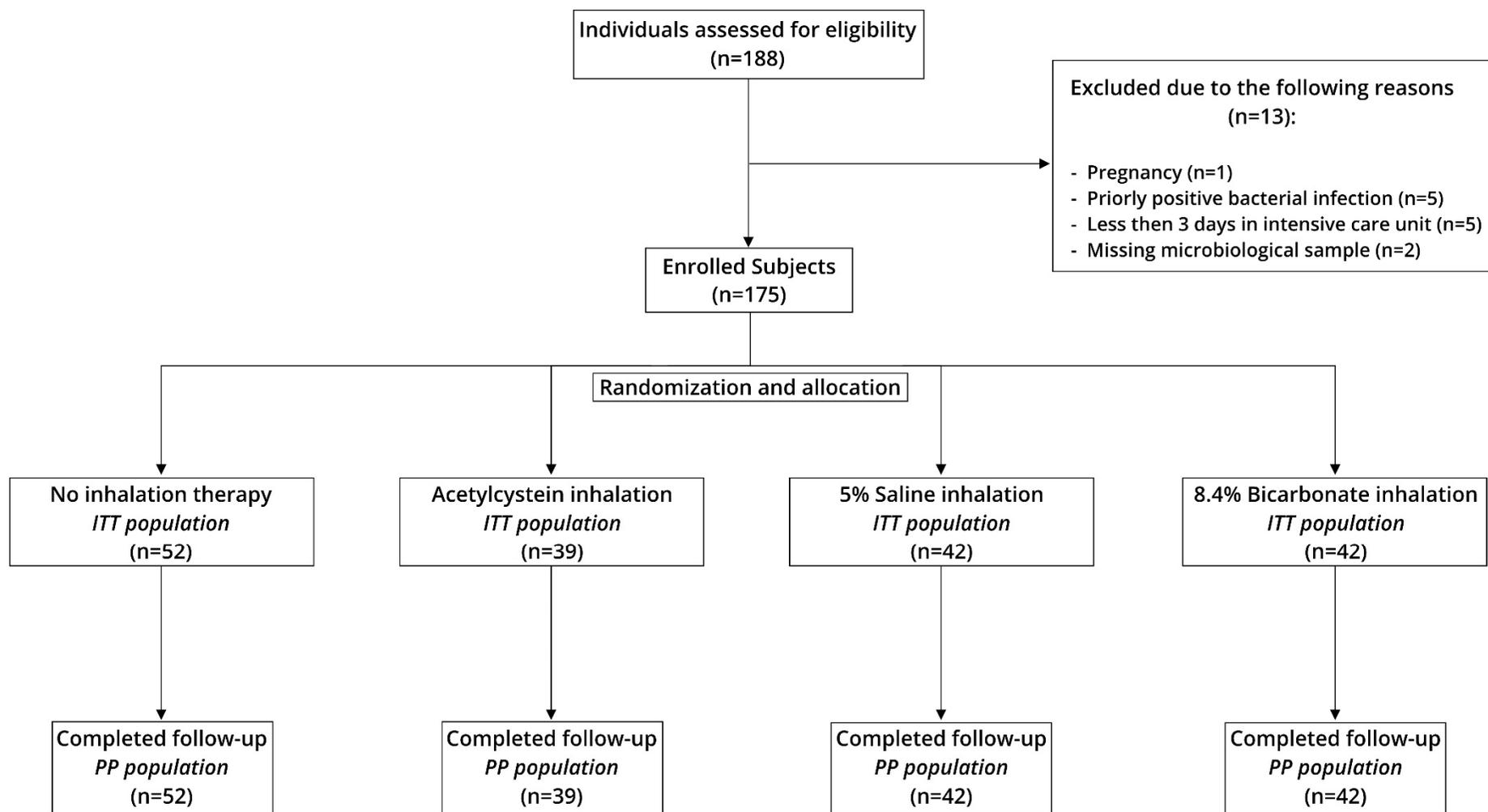
0.483

Data are expressed as number (percent) or median (interquartile range). * Kruskal Wallis test. **Abbreviations:** ALT – alanine aminotransferase; AST – aspartate aminotransferase; BUN – blood urea nitrogen; CRP – C-reactive protein; eGFR – estimated glomerular filtration rate; LDH – lactate dehydrogenase; GGT – gamma glutamyl transferase; HCO₃ – bicarbonate; INR – international normalized ratio; hsTnT – high-sensitivity troponin; MCV – mean corpuscular volume; pO₂ – oxygen partial pressure; pCO₂ – carbon dioxide partial pressure; SpO₂ – oxygen saturation; RDW – red cell distribution width; WBC – white blood cells.

Supplementary Table S2. Predictors of any fungal isolation.

| Variables | Univariate Analysis | | Multivariate Analysis | |
|---------------------------------------|---------------------|-----------------|-----------------------|-----------------|
| | OR (95% CI) | <i>p</i> -Value | aOR (95% CI) | <i>p</i> -Value |
| Age | 1.03 (0.99-1.06) | 0.122 | 1.02 (0.97-1.07) | 0.489 |
| Female sex | 1.95 (0.96-3.93) | 0.064 | 2.29 (0.87-6.04) | 0.093 |
| Duration of ventilator therapy (days) | 1.04 (1.01-1.07) | 0.015 | 1.05 (1.01-1.10) | 0.028 |
| Hospitalization duration (days) | 1.02 (1.00-1.04) | 0.063 | 0.99 (0.97-1.02) | 0.413 |
| Charlson Comorbidity Index | 1.11 (0.92-1.35) | 0.290 | 0.92 (0.67-1.28) | 0.628 |
| Prior smoking | 0.62 (0.26-1.47) | 0.276 | 0.92 (0.33-2.57) | 0.877 |
| Albumin (g/l) | 1.02 (0.93-1.12) | 0.655 | 0.98 (0.88-1.10) | 0.78 |
| Glucose (mmol/l) | 1.01 (0.95-1.08) | 0.663 | 1.03 (0.94-1.12) | 0.565 |

Abbreviations: OR – odds ratios; aOR – adjusted odds ratios.



Supplementary Figure S1. Flow diagram. Abbreviations: none.