**Supplemental digital content 1: Characteristics of patients (n=43) with ARDS upon ICU admission stratified by AC and CC genotype of the *AQP5* –1364A/C promoter SNP**

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| **Variable** | **AC****n=38 (88%)** | **CC****n= 5 (12%)** | **P-value** |
| Age *yrs.* (range/± SD) | 43.2 (18-66/±14.4) | 45.2 (28-56/±8.5) | 0.763  |
| Male sex | 20 (53 %) | 4 (80 %) | 0.363 |
| Body mass index (*kg/m2*) | 26.3 (±6.6) | 23.8 (± 2.6) | 0.414  |
| 30-day survival | 33 (87%) | 4 (80%) | 0.547 |
| Etiology of ARDS |  |  | 0.320 |
| - Primary pneumonia | 28 (83 %) | 5 (77 %) |  |
|  - gram (-) | - 17  | - 3  |  |
|  - gram (+) | - 6  | - 2 |  |
|  - mixed | - 5 | - 0 |  |
| - Sepsis with secondary pneumonia  | 10 (27 %) | 0 (-) |  |
|  - gram (-) | - 7  |  |  |
|  - gram (+) | - 2 |  |  |
|  - mixed | - 1 |  |  |
| Medical history |  |  | 0.515 |
| - Prior cardiovascular disease (%) | 8 (21 %) | 2 (40 %) |  |
| - Prior lung disease (%) | 23 (61 %) | 2 (40 %) |  |
| - Prior gastrointestinal disease (%) | 3 (8 %) | 0 (-) |  |
| - Prior renal / urogenital disease (%) | 2 (5 %) | 0 (-) |   |
| - History of malignant disease (%) | 2 (5 %) | 1 (20 %) |  |
| Vasopressor support (n/%)  | 31 (82 %) | 3 (60 %) | 0.277 |
| ECMO therapy  | 12 (32 %) | 2 (40 %) | 0.998  |
| Continuous hemofiltration/dialysis  | 15 (39 %) | 3 (60 %) | 0.638  |
| C-reactive protein concentration (*mg/dL)* | 17.6 [8.5-23.2]  | 10.6 [5.1-28.7] | 0.714  |
| Procalcitonin concentration (*ng/m*L) | 4.6 [0.9-29.0] | 12.7 [2.6-31.0] | 0.111 |
| Leukocyte concentration (*\*109/L*) | 16.1 [11.4-23.5] | 11.4 [5.2-23.3] | 0.425 |
| Total bilirubin concentration (*mg/dL)* | 0.9 [0.5-2.0] | 1.2 [0.3-1.5] | 0.619  |
| International Normalized Ratio | 1.2 [1.0-1.6] | 1.3 [1.0-1.7] | 0.886 |
| Platelet concentration *(/nL)* | 107 [57–301] | 77 [71–259] | 0.854 |
| Partial thromboplastin time *(s)* | 45 [35-77] | 52 [41-62] | 0.425 |
| Mean pulmonary artery pressure (*mmHg)* | 37 [28-41] | 37 [29-45] | 0.773  |
| PVRI (*dyn\*s/cm5\*m2)*  | 281 [235-479] | 283 [203-399] | 0.860  |
| Mean airway pressure *(mmHg)* | 28 [22-31] | 27 [23-32] | 0.857 |
| Horowitz-index upon ICU admission | 110 [78-180] | 129 [82-246] | 0.129  |
| PEEP/lower airway pressure *(mbar)* | 18 [14-20] | 15 [11-18] | 0.367 |
| Simplified Acute Physiology Score II  | 48.6 (±16.0) | 60.0 (±12.0) | 0.131 |
| Lung injury score | 3.3 (±0.53) | 3.4 (±0.25) | 0.430  |
| SOFA  | 13.0 (±3.7) | 19.6 (±13.9) | 0.364 |

Data are presented as n (%); mean (± SD) median (25th, 75th percentile), ECMO: extracorporeal membrane oxygenation; PVRI: Pulmonary vascular resistance index; PEEP: positive endexspiratory pressure; Horowitz-Index: paO2/FiO2; SOFA: Sepsis-related Organ Failure Assessment score

Missing data excluded from the analysis: Four cases missing for C-reactive protein concentration; one case missing for total bilirubin concentration, 8 cases missing for procalcitonin concentration, three cases missing for leukocyte concentration; 12 cases missing for pulmonary vascular resistance index; two cases missing for mean airway pressure; two cases missing for Lung injury score