**Supplemental Digital Content 3**

**Table S1** Clinical score determination to assess pneumonia severity in mice

|  |  |
| --- | --- |
| **Clinical observation** | **Score points** |
| **Fur** |  |
| Shiny | 0 |
| Disheveled | 1 |
| **Eyes** |  |
| Bright | 0 |
| Purulent, weeping  | 1 |
| **Behavior** |  |
| Curious, awaken | 0 |
| Calm, less active (cage-side observation) | 1 |
| Reduced response to stimulus | 2 |
| **Breathing** |  |
| Steady, consistent | 0 |
| Hyper-/hypoventilation | 1 |
| Labored | 2 |
| **Rating** | **Sum score points** |

Based on the clinical scoring system published by Berger et al.[[1]](#footnote-1)

**Table S2** Median (25-75% interquartile range) concentrations of C5a in selected patient groups

|  |  |  |  |
| --- | --- | --- | --- |
| **Parameters** | **Yes** | **No** | ***P*-value** |
| Mechanical ventilation | 4.5 (3.5-6.9) | 6.6 (4.1-10.0) | 0.06 |
| Male sex | 6.0 (3.9-9.0) | 6.9 (4.4-11.0) | 0.07 |
| Sepsis (SOFA ≥ 2) | 6.4 (4.1-9.6) | 5.9 (3.9-9.3) | 0.2 |
| Septic shock | 6.4 (4.4-8.4) | 6.3 (4.0-9.7) | 0.9 |

The serum used for C5a quantification was obtained from patients with community-acquired pneumonia enrolled within 48 h of hospitalization. Abbreviation: SOFA, Sequential Organ Failure Assessment.

**Table S3** Correlation between C5a serum concentrations and clinical parameters and characteristics in the PROGRESS study cohort

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| **Respiratory function** |
| PaO2/FiO2 ratio | ρ=0.016; *p*=0.754 |
| Respiratory rate min | ρ =0.088; *p*=0.109 |
| Respiratory rate max | ρ =0.057; *p*=0.368 |
| Mechanical ventilation | ρ=-0.113; *p*=0.044 |
| **Extrapulmonary organ function** |
| Glasgow Coma Scale (GCS) | ρ=0.035; *p*=0.486 |
| Creatinine | ρ=0.005; *p*=0.916 |
| Bilirubin | ρ=0.070; *p*=0.163 |
| Thrombocytes min | ρ =-0.158; *p*=0.002 |
| Mean arterial pressure  | ρ =-0.118; *p*=0.022 |
| Catecholamine | ρ=-0.051; *p*=0.312 |
| Lactate | ρ=0.105; *p*=0.217 |
| Negative Base Excess  | ρ=-0.035; *p*=0.602 |
| **Inflammatory parameters** |
| Procalcitonin | ρ=0.195; ***p*=9.22x10-5** |
| C-reactive protein | ρ=0.307; ***p*=4.67x10-10** |
| Leukocytes | ρ=0.066; *p*=0.202 |
| Leukocytes min | ρ=0.025; *p*=0.625 |
| Leukocytes max | ρ=0.062; *p*=0.221 |
| Lymphocytes | ρ=0.031; *p*=0.635 |
| Monocytes | ρ=-0.041; *p*=0.534 |
| Neutrophils | ρ=0.143; *p*=0.2 |
| Immature Neutrophils | ρ=0.239; *p*=0.055 |
| Eosinophils | ρ=-0.088; *p*=0.195 |
| Basophils | ρ=0.009; *p*=0.9 |
| Interleukin-6 | ρ=0.254; ***p*=3.01x10-7** |
| Interleukin-8 | ρ=0.136; *p*=0.007 |
| Interleukin-10 | ρ=0.157; *p*=0.002 |
| Body temperature min | ρ =0.068; *p*=0.189 |
| Body temperature max | ρ =0.116; *p*=0.024 |
| **Clinical characteristics** |
| CRB-65 | ρ=0.048; *p*=0.340 |
| CURB-65 | ρ=0.014; *p*=0.788 |
| Pneumonia severity index (PSI) | ρ=-0.074; *p*=0.140 |
| Sequential Organ Failure Assessment (SOFA) | ρ=0.023; *p*=0.654 |
| Age | ρ=-0.079; *p*=0.118 |

Spearman correlation coefficients (ρ) and *p*-values from patients with community-acquired pneumonia enrolled within 48 h of hospitalization. Bold values indicate significant correlations after Bonferroni correction. Abbreviations: FiO2, fraction of inspiratory oxygen; max, maximum; min, minimum. CRB-65, CURB-65 are pneumonia severity scores.

1. Berger S, Goekeri C, Gupta SK, Vera J, Dietert K, Behrendt U, Lienau J, Wienhold SM, Gruber AD, Suttorp N, Witzenrath M, Nouailles G: Delay in antibiotic therapy results in fatal disease outcome in murine pneumococcal pneumonia. *Crit Care* 2018; 22:287. [↑](#footnote-ref-1)