**Supplementary Appendices**

**Appendix A. Bronchoalveolar Lavage Fluid Findings in Right and Left Lung (Severely and Less Severely)**

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| **BALF Findings** | **Right Lung (n = 40)** | **Left Lung (n = 40)** | ***p* Value** |
| sTREM-1 (ng/mg protein) | 2,09 (0,85 – 2,92) | 2,04 (0,81 – 2,54) | 0,670 |
| % (Macrophage cells/CD45+, HLA-DR+, CD11b+) | 10,25 (2,8-10,7) | 7,81 (2,8-10,2) | 0,950 |
| Foxp3+ CD25+ / CD4 (%) | 21,40 (11,43-28,59) | 19,65 (10,21-22,17) | 0,300 |
| Caspase 3 (ng/mg protein) | 1,70 (0,41 – 1,66) | 1,65 (0,37 – 1,46) | 0,530 |
| SP-A (ng/mg protein) | 11,89 (5,44 – 18,51) | 10,53 (5,95 – 13,48) | 0,070 |

*p* Value< 0,05 (statistically significant)

sTREM-1 denotes soluble triggering receptor expressed on myeloid cells-1, SP-A surfactant protein - A

**Appendix B. Bronchoalveolar Lavage Fluid Findings in Severely Affected Lung Based on Extubation Status**

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| **Laboratory Findings** | **Total (n = 40)** | **Extubation Success & Survived (n = 8)** | **Extubation Failure & Death (n = 32)** | ***p* Value** |
| **Peripheral Blood** |  |  |  |  |
| Interleukin-17 (pg/mL) | 11,74 (11,22 – 12,42) | 11,82 (10,99 – 12,58) | 11,59 (11,22 – 12,27) | 1 |
| **BALF** |  |  |  |  |
| sTREM-1 (ng/mg protein) | 1,17 (0,76 – 2,88) | 1,26 (0,69 – 3,420 | 1,17 (0,76 – 2,79) | 0,892 |
| % (Macrophage cells/CD45+, HLA-DR+, CD11b+) | 7,23 (±0,78) | 7,81 (±6,96) | 7,08 (±4,47) | 0,716 |
| IL-17(pg/mg protein) | 6,43 (3,91 – 14,31) | 7,80 (4,46 – 21,77) | 6,42 (3,91 – 14,31) | 0,499 |
| Foxp3+ CD25+ / CD4 (%) | 16,34 (11,54 – 27,28) | 18,95 (14,61 – 27,28) | 15,99 (11,31 – 25,64) | 0,612 |
| Caspase 3 (ng/mg protein) | 0,83 (0,55 – 1,76) | 1,40 (0,65 – 3,42) | 0,82 (0,44 – 1,50) | 0,199 |
| SP-A (ng/mg protein) | 11,54 (±1,05) | 11,46 (±5,01) | 11,57 (±7,07) | 0,967 |

*p* Value< 0,05 (statistically significant)

sTREM-1 denotes soluble triggering receptor expressed on myeloid cells-1, SP-A surfactant protein - A

**Appendix C. Microbial Pattern and PCR SARS-CoV-2 Findings of the Study Population**

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| --- | --- |
| **Microbiology and RT-PCR** | **n (%) (n = 31)** |
| Sterile BAL culture, negative PCR SARS-CoV-2 (n = 3) | 3 (100) |
| Pneumonia COVID-19 (n = 28) |  |
| Positive PCR SARS-CoV-2 (COVID-19) | 18 (63,3) |
| COVID-19 + *α-hemolytic Streptococcus* | 2 (7,1) |
| COVID-19 + *Staphylococcus aureus* | 2 (7,1) |
| COVID-19 + *Staphylococcus saprophyticus* | 2 (7,1) |
| COVID-19 + *Acinetobacter sp.* | 2 (7,1) |
| COVID-19 + *Staphylococcus epidermidis* | 2 (7.1) |

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| **Chart, scatter chart  Description automatically generated** | **Chart, scatter chart  Description automatically generated** |
| **(a)** | **(b)** |
| **Chart, scatter chart  Description automatically generated** | **Chart, scatter chart  Description automatically generated** |
| **(c)** | **(d)** |

**Appendix D. Biomarker Interactions**

1. **CD4 – IL-17**

Among all the patients with extubation success within 19 days, 5 patients (62,5%) displayed the tendency of low CD4 levels (cutoff points median 16 cells/μL) with low expression of IL-17 (cutoff points by ROC 5,12 pg/mg protein), conversely, among all the patients with extubation failure (32 patients), 25 patients (78,1%) (Relative Risk: 2,083, 95% Confidence Interval = 0.836 – 5,192, *p* = 0,039).

1. **CD4 – sTREM-1**

Among all the patients with extubation success within 19 days, 4 patients (50%) displayed the tendency of low CD4 levels (cutoff points median 16 cells/μL) with low expression of sTREM-1(cutoff points median 1,16 pg/mg protein), conversely, among all the patients with extubation failure (32 patients), 23 patients (71,9%) did not show this tendency (*p* = 0,400).

1. **CD4 – Tregs**

Among all the patients with extubation success within 19 days, 5 patients (62,5%) displayed the tendency of low CD4 levels (cutoff points median 16 cells/μL) with low expression of Tregs (cutoff points median 16,34 % in CD4), conversely, among all the patients with extubation failure (32 patients), 24 patients (75%) (*p* = 0,086).

1. **CD4 – SP-A**

Among all the patients with extubation success within 19 days, 3 patients (37,5%) displayed the tendency of low CD4 levels (cutoff points median 16 cells/μL) with low expression of SP-A (cutoff points median 11.88 pg/mg protein), conversely, among all the patients with extubation failure (32 patients), 25 patients (78,1%) (*p* = 0,388).