**Supplemental Table**

**Supplemental Table S1. Characteristic of included studies for COVID-19 and Non-COVID-19 patients**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Author** | **Year** | **Country.****Region** | **n** | **Non-COVID-19** | **n** | **COVID-19** |
| **Leu (x109/L)** | **Lymp****(x109/L)** | **Neu****(x109/L)** | **Platelets****(x109/L)** | **D-dimer****(μg/mL)** | **CRP (mg/mL)** | **PCT (ng/mL)** | **Leu (x109/L)** | **Lymp****(x109/L)** | **Neu****(x109/L)** | **Platelets****(x109/L)** | **D-dimer****(μg/mL)** | **CRP (mg/mL)** | **PCT (ng/mL)** |
| Cheng et al\* | 2020 | China.Shanghai | 22 | 5.63 ± 2.46 | 1.24 ± 0.49 | 3.49 ± 2.37 | 209.2 ± 57.42 | NR | 12.75 ± 61.08 | NR | 11 | 4.38 ± 1.34 | 1.1 ± 0.22 | 3.13 ± 1.22 | 143.5 ± 32.63 | NR | 14.3 ± 13.48 | NR |
| Hsih et al\* | 2020 | Taiwan | 41 | 7.7 ± 2.67 | 1.5 ± 0.74 | 5.3 ± 2.51 | NR | NR | 0.42 ± 1.01 | NR | 2 | 6.3 ± 0.59 | 1.8 ± 2.1 | 3.9 ± 1.11 | NR | NR | 0.23 ± 0.04 | NR |
| Liang et al\* | 2020 | China.Beijing | 67 | 7.21 ± 2.94 | 1.19 ± 0.62 | 5.38 ± 2.85 | 189.8 ± 67.8 | NR | NR | NR | 21 | 5.19 ± 1.47 | 1.26 ± 0.64 | 3.39 ± 1.48 | 162.6 ± 59 | NR | NR | NR |
| Song et al\* | 2020 | China.Zhejiang | 231 | 6.8 ± 2.14 | 1.6 ± 0.66 | 4.1 ± 2.22 | 229 ± 57.77 | NR | 2.1 ± 9.92 | 0.2 ± 0.14 | 73 | 5.3 ± 3.48 | 0.9 ± 0.51 | 3.7 ± 3.4 | 187 ± 67.4 | NR | 24.3 ± 30.66 | 0.07 ± 0.04 |
| Yuanyuan et al\* | 2020 | China.Wuhan | 23 | 4.2 ± 1.5 | 1.0 ± 0.5 | 3.0±1.6 | 160 ± 44 | 0.8±1.2 | 36 ± 34 | 0.07 ± 0.08 | 31 | 4.8 ± 2.3 | 0.9 ± 0.5 | 3.5 ± 2.1 | 174 ± 63 | 0.5 ± 0.5 | 41 ± 39 | 0.11 ± 0.12 |
| Zhao et al\* | 2020 | China.Wuhan | 15 | 6.18 ± 6.67 | 1.11 ± 0.98 | NR | NR | NR | 21.47 ± 105.03 | NR | 19 | 4.92 ± 4.71 | 0.97 ± 1.28 | NR | NR | NR | 26.47 ± 86.74 | NR |
| Zhu et al | 2020 | China.Hubei | 84 | 6.3 ± 2.3 | 1.5 ± 0.6 | 4.4 ± 2.2 | 199.6 ± 64.1 | 0.3 ± 0.5 | 18.7 ± 28.2 | 0.2 ± 0.2 | 32 | 5.3 ± 2.1 | 1.1 ± 0.6 | 3.7±1.9 | 157.2 ± 54.5 | 0.2 ± 0.2 | 20.7 ± 24.0 | 0.1 ± 0.1 |

Leu. leukocytes; Lymp, Lymphocytes; Neu, Neutrophils; CRP, C-reactive protein; PCT, procalcitonin; NR, not reported; n, sample size. Data presented as mean ± standard deviation (SD). \*mean ± SD was extrapolated from median and interquartile range (IQR).

**Supplemental Table S2. Characteristic of included studies for COVID-19 with and without severe condition**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Author** | **Year** | **Country. Region** | **n** | **Non-severe** | **n** | **Severe** |
| **Leu (×109/L)** | **Lymp (×109/L)** | **Neu (×109/L)** | **Platelet (x109/L)** | **D-dimer (μg/mL)** | **CRP (mg/L)** | **PCT (ng/mL)** | **Leu (×109/L)** | **Lymp (×109/L)** | **Neu (×109/L)** | **Platelet (x109/L)** | **D-dimer (μg/mL)** | **CRP (mg/L)** | **PCT (ng/mL)** |
| Cao et al (1)\*  | 2020 | China. Shanghai | 174 | 4.7 ± 1.55 | 1.23 ± 0.51 | 2.81 ± 1.09 | 177 ± 57.03 | 0.365 ± 0.22 | NR | 0.03 ± 0.02 | 19 | 4.48 ± 2.22 | 0.76 ± 0.30 | 3.47 ± 1.31 | 147 ± 43.7 | 0.77 ± 0.59 | NR | 0.03 ± 0.02 |
| Cao et al (2)  | 2020 | China. Hubei | 107 | 6.57 ± 4.98 | 1.38 ± 0.68 | NR | 261.88 ± 131.9 | NR | 29.85 ± 32.9 | NR | 21 | 11.85 ± 5.35 | 0.67 ± 0.46 | NR | 172.76 ± 120.7 | NR | 37.92 ± 29.57 | NR |
| Gao et al | 2020 | China. Anghui | 28 | 4.96 ± 1.85 | 1.07 ± 0.40 | 3.43 ± 1.63 | NR | 0.21 ± 0.06 | 18.76 ± 22.20 | 0.02 ± 0.02 | 15 | 4.26 ± 1.85 | 1.20 ± 0.42 | 2.65 ± 1.49 | NR | 0.49 ± 0.46 | 39.37 ± 27.68 | 0.04 ± 0.05 |
| Guan et al\* | 2020 | China. Wuhan | 926 | 4.9 ± 1.62 | 1 ± 0.44 | NR | 172 ± 54.07 | NR | NR | NR | 173 | 3.7 ± 2.37 | 0.8 ± 0.29 | NR | 137.5 ± 59.62 | NR | NR | NR |
| Han et al (a)  | 2020 | China. Wuhan | 49 | NR | NR | NR | NR | 2.14 ± 2.88 | NR | NR | 35 | NR | NR | NR | NR | 19.11 ± 35.48 | NR | NR |
| Han et al (b) | 2020 | China. Wuhan | 49 | NR | NR | NR | NR | 2.14 ± 2.88 | NR | NR | 10 | NR | NR | NR | NR | 20.04 ± 32.39 | NR | NR |
| Huang et al\* | 2020 | China. Wuhan | 28 | 5.7 ± 3.33 | 1 ± 0.29 | 4.4 ± 3.03 | NR | 0.5 ± 0.22 | NR | 0.1 ± 0.00 | 13 | 11.3 ± 4.67 | 0.4 ± 0.44 | 10.6 ± 5.03 | NR | 2.4 ± 10.22 | NR | 0.1 ± 0.22 |
| Li et al\* | 2020 | China. Hubei | 58 | 5.27 ± 1.55 | 1.23 ± 0.36 | 3.5 ± 1.34 | NR | NR | 9.59 ± 20.6 | 0.038 ± 0.029 | 25 | 5.5 ± 2.67 | 0.7 ± 0.37 | 4.36 ± 2.67 | NR | NR | 89.2 ± 64.27 | 0.086 ± 0.11 |
| Liu et al (1)\* | 2020 | China. Chongqing | 44 | 5.2 ± 2.59 | 1.3 ± 0.59 | 3.5 ± 2.37 | 192 ± 72.59 | 0.28 ± 0.20 | 7.5 ± 15.85 | 0.04 ± 0.02 | 7 | 5.7 ± 5.33 | 0.37 ± 0.22 | 5.2 ± 4.96 | 150 ± 80.74 | 0.6 ± 0.82 | 135.7 ± 71.85 | 0.1 ± 0.14 |
| Liu et al (2)\* | 2020 | China. Wuhan | 67 | 5.18 ± 1.63 | 1 ± 0.52 | 2.94 ± 1.77 | 173.20 ± 55.37 | 0.39 ± 0.64 | 10.6 ± 23.11 | 0.06 ± 0.03 | 11 | 6.08 ± 2.56 | 0.53 ± 0.62 | 4.69 ± 3.03 | 143.90 ± 64.81 | 0.56 ± 4.91 | 38.9 ± 37.40 | 0.12 ± 0.32 |
| Lo et al\* | 2020 | Macau | 6 | 4.51 ± 1.18 | 1.40 ± 0.54 | 2.49 ± 0.90 | NR | NR | 1.65 ± 3.16 | NR | 4 | 5.57 ± 1.99 | 1.18 ± 0.49 | 3.82 ± 1.81 | NR | NR | 2.63 ± 3.02 | NR |
| Mao et al\* | 2020 | China.Wuhan | 126 | 4.5 ± 9.03 | 1.3 ± 1.62 | 2.6 ± 8.22 | 219 ± 400.74 | 0.4 ± 6.29 | 9.4 ± 93.03 | NR | 88 | 5.4 ± 15.03 | 1.1 ± 1.85 | 3.8 ± 13.85 | 204.5 ± 413.33 | 0.9 ± 14.74 | 37.1 ± 156.96 | NR |
| Qian et al\* | 2020 | China. Zhejiang | 82 | 4.97 ± 1.20 | 1.4 ± 0.51 | 2.8 ± 0.97 | 198 ± 77.03 | 300 ± 217 | 5.98 ± 7.33 | 0.03 ± 0.02 | 9 | 5.23 ± 1.52 | 0.9 ± 0.44 | 3.32 ± 2.08 | 152 ± 60 | 450 ± 240 | 30.63 ± 67.33 | 0 |
| Qin et al\* | 2020 | China. Wuhan | 166 | 4.9 ± 1.77 | 1 ± 0.44 | 3.2 ± 1.70 | NR | NR | 33.2 ± 38.14 | 0.05 ± 0.04 | 286 | 5.6 ± 3.03 | 0.8 ± 0.37 | 4.3 ± 3.03 | NR | NR | 57.9 ± 60.96 | 0.1 ± 0.14 |
| Qu et al | 2020 | China. Huizhou | 27 | NR | 1.01 ± 0.45 | NR | 192.26 ± 58.12 | NR | NR | NR | 3 | NR | 1.16 ± 0.55 | NR | 169.67 ± 48.95 | NR | NR | NR |
| Ruan et al | 2020 | China. Wuhan | 82 | 6.76 ± 3.49  | 1.42 ± 2.14 | NR | 222.1 ± 78 | NR | 34.1 ± 54.4 | NR | 68 | 10.42 ± 4.76 | 0.6 ± 0.32 | NR | 176.3 ± 67.7 | NR | 126.6 ± 106.3 | NR |
| Song et al\* | 2020 | China. Zhejiang | 31 | 4.2 ± 1.85 | 1 ± 0.51 | 2.8 ± 1.7 | 178 ± 82.96 | NR | 10.3 ± 19.62 | 0.06 ± 0.71 | 42 | 6.6 ± 5.25 | 0.8 ± 0.44 | 5.8 ± 5.48 | 189 ± 57.03 | NR | 35 ± 32.22 | 0.07 ± 0.71 |
| Wang et al (1) \* | 2020 | China. Changsa | 205 | 4.6 ± 10.66 | 1.21 ± 6.74 | NR | NR | NR | 11.0 ± 67.62 | NR | 37 | 4.8 ± 7.18 | 0.74 ± 1.33 | NR | NR | NR | 45 ± 73.48 | NR |
| Wang et al (2) \* | 2020 | China. Wuhan | 102 | 4.3 ± 1.55 | 0.9 ± 0.44 | 2.7 ± 1.48 | 165 ± 46.67 | 166 ± 136.29 | NR | NR | 36 | 6.6 ± 4.59 | 0.8 ± 0.29 | 4.6 ± 3.92 | 163 ± 74.81 | 414 ± 839.25 | NR | NR |
| **Author** | **Year** | **Country. Region** | **n** | **Non-Severe** | **n** | **Severe** |
| **Leu (×109/L)** | **Lymp (×109/L)** | **Neu (×109/L)** | **Platelet (x109/L)** | **D-dimer (μg/mL)** | **CRP (mg/L)** | **PCT (ng/mL)** | **Leu (×109/L)** | **Lymp (×109/L)** | **Neu (×109/L)** | **Platelet (x109/L)** | **D-dimer (μg/mL)** | **CRP (mg/L)** | **PCT (ng/mL)** |
| Yang et al  | 2020 | China. Wuhan | 20 | 0.74 ± 0.40 | NR | NR | 164 ± 74 | NR | NR | NR | 32 | 0.62 ± 0.37 | NR | NR | 191 ± 63 | NR | NR | NR |
| Young et al\* | 2020 | Singapore | 12 | 4.6 ± 3.41 | 1.2 ± 0.59 | 2.8 ± 2.81 | 159 ± 62.96 | NR | 11.1 ± 13.48 | NR | 6 | 3.4 ± 2.37 | 1.1 ± 0.67 | 1.8 ± 1.85 | 156 ± 74.81 | NR | 65.6 ± 37.03 | NR |
| Yudong et al\* | 2020 | China. Wuhan | 96 | 5.78 ± 2.76 | 0.99 ± 0.42 | 4.14 ± 2.72 | NR | NR | 34.34 ± 49.62 | 0.11 ± 0.10 | 16 | 5.53 ± 3.34 | 0.74 ± 0.44 | 4.68 ± 3.33 | NR | NR | 106.98 ± 40.14 | 0.20 ± 0.24 |
| Zhang et al (1)\* | 2020 | China. Wuhan | 82 | 4.5 ± 1.78 | 0.8 ± 0.44 | NR | NR | 0.2 ± 0.148 | 28.7 ± 31.55 | 0.05 ± 0.05 | 56 | 5.3 ± 3.7 | 0.7 ± 3.7 | NR | NR | 0.4 ± 1.62 | 47.6 ± 49.26 | 0.01 ± 0.178 |
| Zhang et al (2)\* | 2020 | China. Wuhan | 166 | 4.1 ± 2 | 0.9 ± 0.44 | 2.6 ± 1.62 | 175 ± 57.03 | 184 ± 152.59 | NR | NR | 55 | 6.2 ± 3.92 | 0.7 ± 0.37 | 5.4 ± 4.14 | 169 ± 67.40 | 443 ± 809.62 | NR | NR |
| Zhang et al (3) | 2020 | China. Shaanxi | 9 | 4.28 ± 0.82 | 1.19 ± 0.38 | NR | NR | NR | 7.9 ± 5.16 | NR | 3 | 6.21 ± 3.22 | 0.98 ± 0.25 | NR | NR | NR | 16.34 ± 7.71 | NR |
| Zhou et al\* | 2020 | China. Wuhan | 137 | 5.2 ± 2.51 | 1.1 ± 0.51 | NR | 220 ± 76.29 | 0.6 ± 0.51 | NR | 0.1 ± 0.0 | 54 | 9.8 ± 5.18 | 0.6 ± 0.22 | NR | 165.5 ± 90.37 | 5.2 ± 14.51 | NR | 0.1 ± 0.29 |
| Zhu et al\* | 2020 | China. Wuhan | 71 | 6.4 ± 2.92 | 0.87 ± 0.18 | 5.01 ± 2.76 | NR | 1.74 ± 3.59 | 55.6 ± 47.92 | 0.091 ± 0.10 | 43 | 7.8 ± 4.13 | 0.77 ± 0.43 | 5.37 ± 4.19 | NR | 1.37 ± 3.48 | 86.1 ± 111.78 | 0.141 ± 30.77 |

Leu. leukocytes; Lymp. Lymphocytes; Neu. Neutrophils; CRP. C-reactive protein; PCT. procalcitonin; NR. not reported; n. sample size. Data presented as mean ± standard deviation (SD). \*mean ± SD was extrapolated from median and interquartile range (IQR).