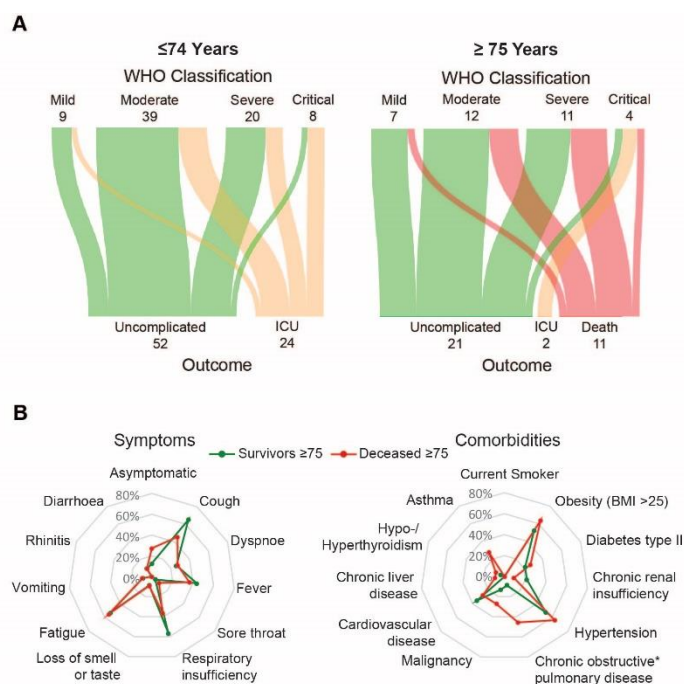
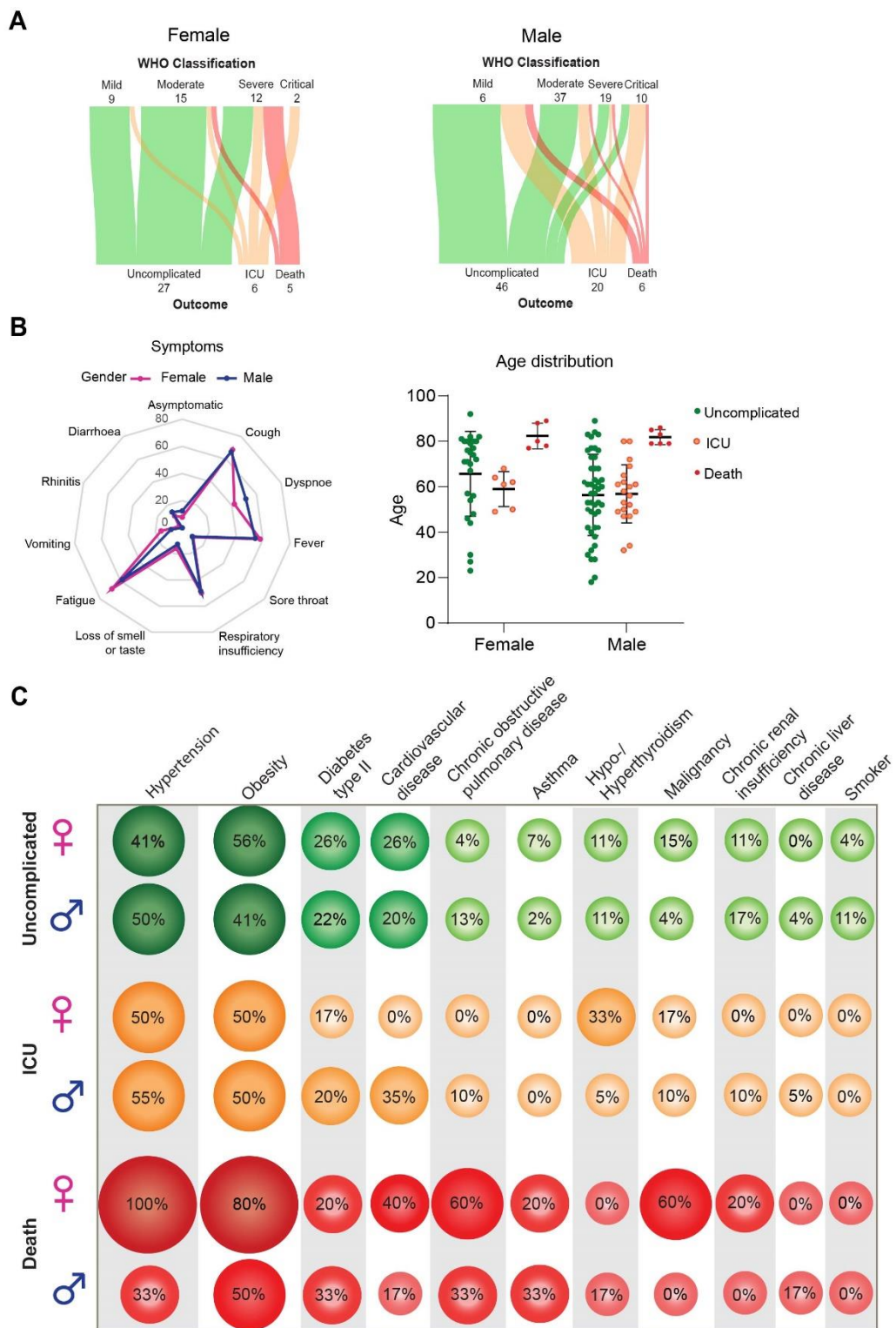


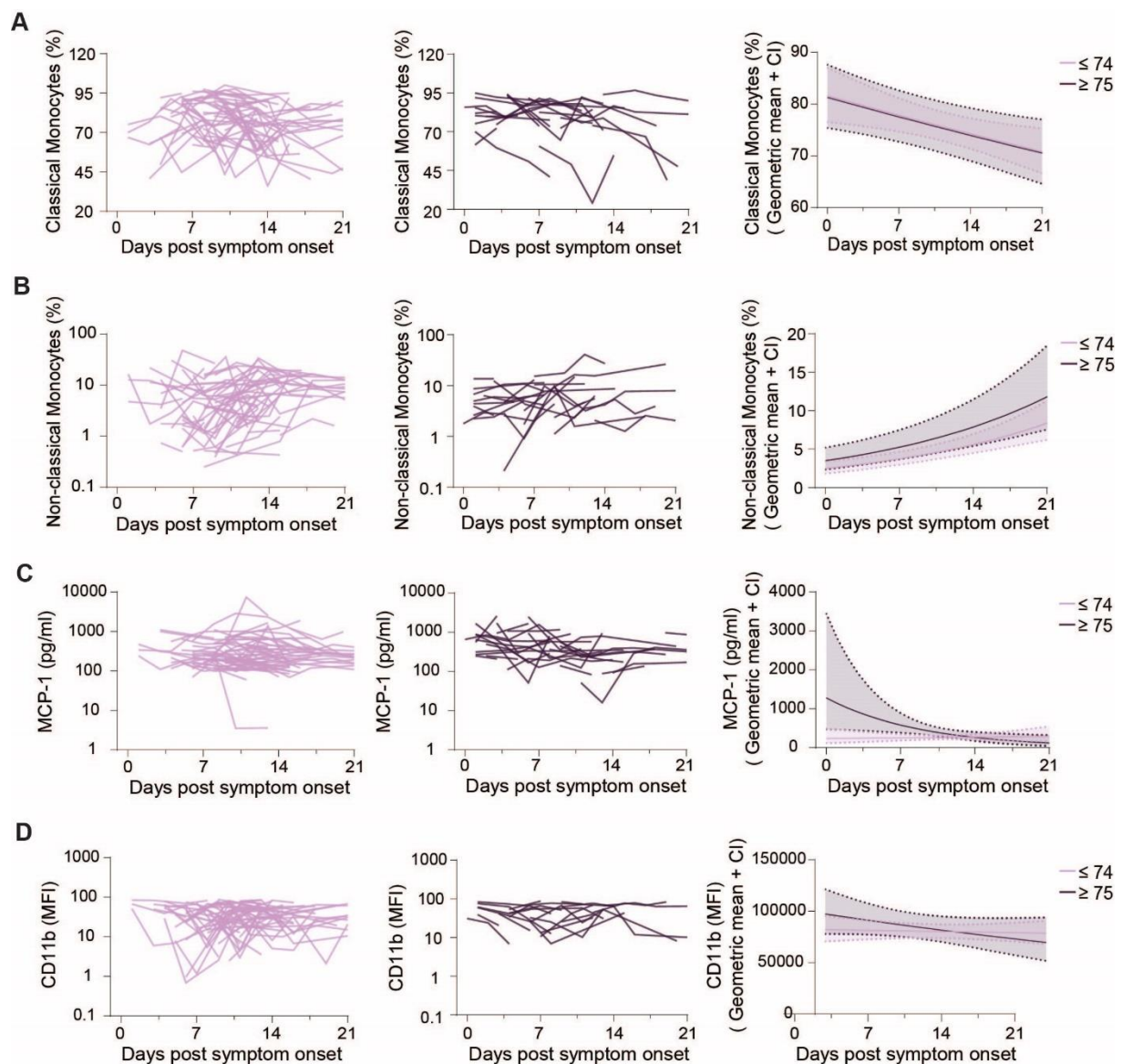
## Supplementary Figures:



**Supplementary Figure S1: Disease severity, outcome, symptoms and comorbidities of young and elderly COVID-19 patients:** A) Sankey diagram visualizing WHO disease severity classification at admittance and clinical outcome of COVID-19 patients below (left) and above (right) 75 years of age, B) Percentage of survived and diseased COVID-19 patients above 75 years of age having symptoms (left) or comorbidities (right).

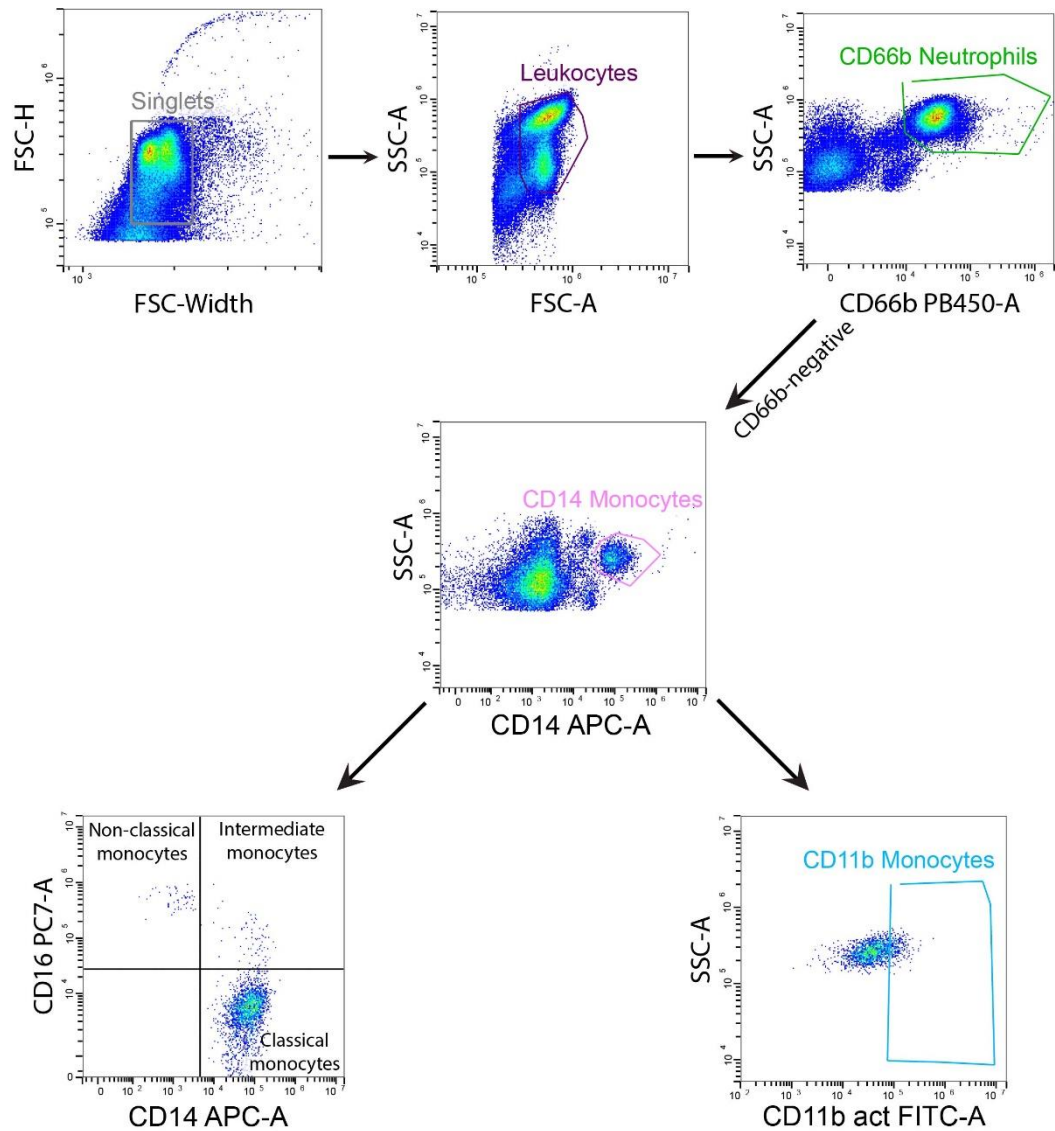


**Supplementary Figure S2: Disease severity, outcome, symptoms and comorbidities of female and male COVID-19 patients:** A) Sankey diagram visualizing WHO disease severity classification at admittance and clinical outcome of female (left) and male (right) COVID-19 patients, B) Percentage of symptoms experienced by COVID-19 patients (left) and the age distribution in the outcome groups (right) according to sex, C) The prevalence of comorbidities of female and male patients according to the clinical outcome groups.



**Supplementary Figure S3: Frequencies of monocyte subsets and levels of monocyte activation markers in COVID-19 patients below and above 75 years of age over the disease course:** Raw values for individual COVID-19 patients below (left) or above (middle) 75 years of age and modelled values (right) of A) classical monocytes, B) non-classical monocytes, C) MCP-1 and D) activated CD11b.





**Supplementary Figure S5: Gating strategy of flow cytometry data:** Monocytes were defined as being CD66b-negative and CD14-positive. Classical and non-classical monocyte subpopulations were analysed based on the expression of CD14 and CD16. Activated CD11b of monocytes was determined by quantifying the expression of CD11b on CD14-positive monocytes.



**Supplementary Table S1: Patient demographics and laboratory parameters at hospital admission**

Parameter	Missing Data n	All (n= 110) n (%) Median (IQR)	≤ 74 Years (n= 76) n (%) Median (IQR)	≥ Years (n= 34) n (%) Median (IQR)	p-Value*
<b>Sex</b>					<b>p = 0.023</b>
Male	-	72 (65.5)	55 (72.4)	17 (50.0)	
Female	-	38 (34.5)	21 (27.6)	17 (50.0)	
<b>Comorbidities</b>					
Current smoker	32	6 (7.7)	6 (7.9)	0 (0.0)	p = 0.110
Obesity (BMI > 25)	12	54 (55.1)	35 (46.1)	19 (55.9)	p = 0.179
Diabetes type II	-	25 (22.7)	17 (22.4)	8 (23.5)	p = 0.893
Hypertension	1	55 (50.5)	36 (47.4)	19 (55.9)	p = 0.327
Cardiovascular disease (any)	-	26 (23.6)	15 (19.7)	11 (32.4)	p = 0.150
Coronary heart disease	-	14 (12.7)	9 (11.8)	5 (14.7)	p = 0.677
Chronic heart failure	-	8 (7.3)	7 (9.2)	1 (2.9)	p = 0.242
Atrial fibrillation	-	11 (10)	5 (6.6)	6 (17.6)	p = 0.074
Peripheral arterial disease	-	6 (5.5)	3 (3.9)	3 (8.8)	p = 0.298
Chronic obstructive pulmonary disease	-	14 (12.7)	7 (9.2)	7 (20.6)	p = 0.098
Asthma	1	6 (5.5)	3 (3.9)	3 (8.8)	p = 0.306
Hypo- / Hyperthyroidism	1	12 (11.0)	10 (13.2)	2 (5.9)	p = 0.250
Chronic renal insufficiency	-	14 (12.7)	8 (10.5)	6 (17.6)	p = 0.300
Chronic liver disease	-	4 (3.6)	3 (3.9)	1 (2.9)	p = 0.794
Malignancy	-	12 (10.9)	6 (7.9)	6 (17.6)	p = 0.129
<b>Symptoms</b>					
Asymptomatic	-	12 (10.9)	6 (7.9)	6 (17.6)	p = 0.129
Cough	-	74 (67.3)	54 (71.1)	20 (58.8)	p = 0.207
Dyspnoea	-	53 (48.2)	44 (57.9)	9 (26.5)	<b>p = 0.002</b>
Fever	-	61 (55.5)	47 (61.8)	14 (41.2)	<b>p = 0.044</b>
Sore throat	-	11 (10.0)	9 (11.8)	2 (5.9)	p = 0.336
Respiratory insufficiency	-	54 (49.1)	37 (48.7)	17 (50.0)	p = 0.898
Loss of smell or taste	38	15 (20.8)	12 (15.8)	3 (8.8)	p = 0.929
Fatigue	-	68 (61.8)	50 (65.8)	18 (52.9)	p = 0.200
Vomiting	-	12 (10.9)	9 (11.8)	3 (8.8)	p = 0.639
Rhinitis	1	1 (0.9)	1 (1.3)	0 (0.0)	p = 0.508
Diarrhoea	-	14 (12.7)	11 (14.5)	3 (8.8)	p = 0.411
<b>COVID-19 classification at admission †</b>					<b>p = 0.622</b>
Asymptomatic / mild	-	15 (13.6)	9 (11.8)	6 (17.6)	
Moderate	-	52 (47.3)	39 (51.3)	13 (38.2)	
Severe	-	31 (28.2)	20 (26.3)	11 (32.4)	
Critical	-	12 (10.9)	8 (10.5)	4 (11.8)	
<b>Outcome</b>					<b>p &lt; 0.001</b>

Uncomplicated	-	73 (66.4)	52 (68.4)	21 (61.8)	
ICU	-	26 (23.6)	24 (31.6)	2 (5.9)	
Death	-	11 (10.0)	0 (0.0)	11 (32.4)	
<b>Clinical Characteristics</b>					
Total hospitalization (days)	1	12 (9.0-21.5)	12 (9.0-18.0)	14 (9.0-29.3)	p = 0.198
Invasive ventilation	-	5 (4.5)	1 (1.3)	4 (11.8)	<b>p = 0.015</b>
<b>Clinical Parameter</b>					
Hemoglobin (g/dL)	76	13.8 (12.3-14.5)	13.8 (12.4-14.5)	13.4 (12.2-15.0)	p = 105
Red blood cell count (x10 <sup>12</sup> /L)	76	4.6 (4.2-4.9)	4.6 (4.2-4.8)	4.5 (3.8-5.2)	<b>p = 0.001</b>
Platelet count (x10 <sup>9</sup> /L)	76	190.0 (158.3-252.5)	177.0 (143.3-249.8)	230.5 (179.8-263.3)	p = 0.100
Leukocyte count (x10 <sup>9</sup> /L)	75	5.5 (4.2-8.1)	5.5 (4.1-6.9)	7.2 (5.4-12.0)	p = 0.146
Lymphocyte count (x10 <sup>9</sup> /L)	80	0.8 (0.7-1.3)	0.9 (0.6-1.3)	0.8 (0.7-1.2)	p = 0.113
Neutrophil count (x10 <sup>9</sup> /L)	79	4.4 (3.3-5.3)	4.2 (3.1-5.1)	5.7 (3.8-10.2)	<b>p = 0.001</b>
Monocyte count (x10 <sup>9</sup> /L)	80	0.3 (0.2-0.4)	0.3 (0.2-0.3)	0.4 (0.3-0.4)	p = 0.989
Eosinophil count (x10 <sup>9</sup> /L)	80	0.01 (0.0-0.01)	0.01 (0.01-0.01)	0.00 (0.00-0.01)	<b>p = 0.005</b>
Basophil count (x10 <sup>9</sup> /L)	80	0.02 (0.01-0.03)	0.02 (0.01-0.03)	0.03 (0.01-0.05)	p = 0.065
C-reactive protein (mg/L)	75	62.5 (38.8-108.8)	57.4 (32.4-99.0)	97.7 (60.4-115.5)	p = 0.870
D-dimer (mg/L)	77	0.6 (0.4-0.9)	0.6 (0.4-0.9)	0.6 (0.5-0.9)	p = 0.758
Prothrombin time (%)	77	101.6 (94.5-109.4)	102.8 (92.6-109.9)	98.0 (95.4-107.6)	p = 0.741
International normalized ratio	77	1.00 (1.00-1.04)	1.00 (1.00-1.05)	1.02 (1.00-1.03)	p = 0.776
Activated partial thromboplastin time (s)	77	35.1 (30.7-37.8)	35.2 (31.0-38.1)	35.1 (29.1-37.1)	p = 0.364

\*p<0.05. Nominal variables were compared using the Chi-square test, metric data that were normally distributed were compared using the Student's T-Test and metric data that were not normally distributed were compared using the Mann Whitney U-Test. The Kolmogorov-Smirnov Test was applied to assess for normality.

† COVID-19 classification according to the guidelines issued by the World Health Organization in mild (fever <38°C, no dyspnoea, no pneumonia), moderate (fever, respiratory symptoms, pneumonia), severe (respiratory distress with respiratory rate ≥30 per minute, oxygen saturation < 93% at rest) and critical (respiratory failure with requirement of mechanical ventilation, requirement of ICU)

BMI: body mass index; ICU: intensive care unit; IQR: interquartile range.

**Supplementary Table S2: Antibodies for flow cytometry analyzes**

<b>Antibody</b>	<b>Fluorophore</b>	<b>Clone</b>	<b>Final concentration</b>	<b>Company</b>
$\alpha$ -CD66b	Pacific Blue	G10F5	1:75	BioLegend
$\alpha$ -CD14	APC	MØ9	1:60	BD Biosciences
$\alpha$ -CD16	PE-Cyanine7	3G8	1:150	BioLegend
$\alpha$ -CD11b-act	FITC	CBRM1/5	1:60	BioLegend