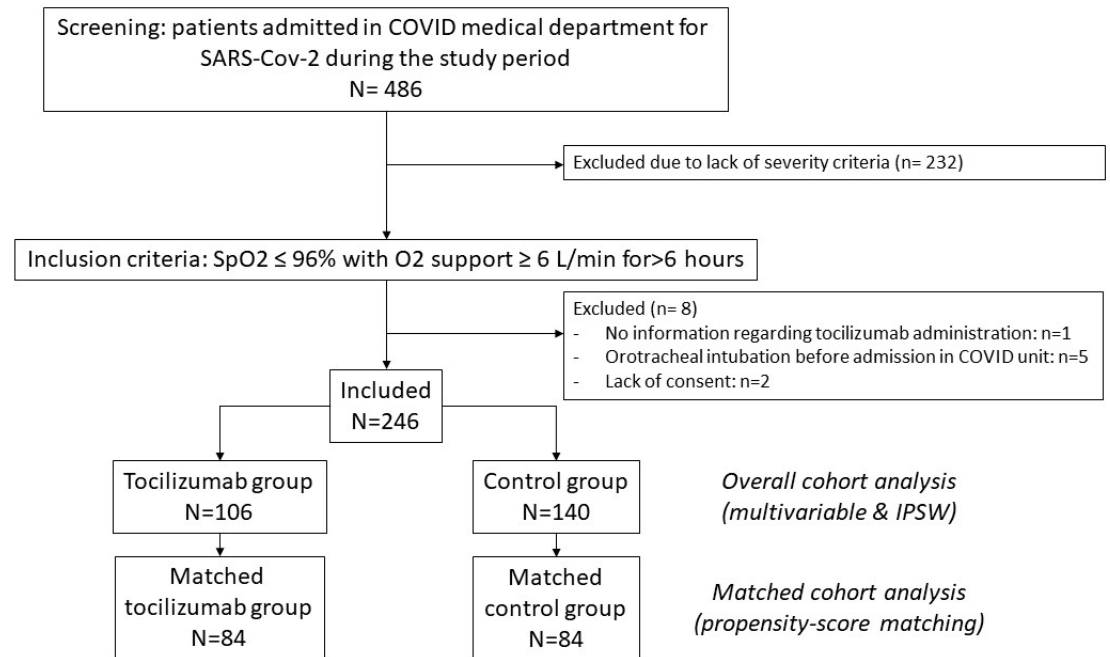


Supplementary Material

For “Effect of tocilizumab in hospitalized patients with severe pneumonia COVID-19: a cohort study” by Benjamin Rossi* & Lee S Nguyen* et al.

Supplementary figure. Flow chart



Supplementary Table. Baseline characteristics in the overall cohort and corresponding available data

Clinical features, No (%)		
Tocilizumab	106 (43.1%)	all
Age, mean±SD, years	68.0 ±15.0	all
Female	95 (38.6%)	all
Full engagement status	145 (58.9%)	all
Diabetes	101 (41.1%)	all
Insulin treatment	40 (16.3%)	all
Hypertension	143 (58.1%)	all
ACEI treatment	37 (15.0%)	all
ARB treatment	50 (20.3%)	all
Smoker (active or past)	62 (25.2%)	all
History of cardiovascular disease, stroke, peripheral artery disease, heart failure	68 (27.6%)	all
Stroke	26 (10.6%)	all
Peripheral artery disease	8 (3.3%)	all
Heart failure	11 (4.5%)	all
Atrial fibrillation	30 (12.2%)	all
History_COPD_asthma_emphysema_fibrosis	39 (15.9%)	all
COPD	18 (7.3%)	all
Asthma	15 (6.1%)	all
Emphysema	11 (4.5%)	all
Fibrosis	3 (1.2%)	all
Chronic kidney disease (eGFR<60 ml/min/1.73m ²)	41 (16.7%)	all
Solid organ transplantation	3 (1.2%)	all
Cirrhosis	0 (0.0%)	all
HIV	2 (0.8%)	all
Immunosuppressant drugs	17 (6.9%)	all
Long-term oral corticosteroids	18 (7.3%)	all
Malignancy (active)	23 (9.3%)	all
Obesity (BMI>30kg/m ²)	74 (30.1%)	all
Treatments after admission		
No.(%) under antibiotics	240 (97.6%)	all
Betalactamin	234 (95.1%)	all
Macrolide	191 (77.6%)	all
Others	28 (11.4%)	all
No.(%) under antiviral therapy	194 (78.9%)	all
Hydroxychloroquine	188 (76.4%)	all
Lopinavir/ritonavir	9 (3.7%)	all
Immunosuppressants and/or corticosteroids after admission	90 (36.6%)	all
Baricitinib	19 (7.7%)	all

Characteristics at admission		
SpO ₂ , mean \pm SD, %	94.0 \pm 4.0	all
SpO ₂ /FiO ₂ ratio, mean \pm SD,	332.1 \pm 100.5	all
Oxygen flow, mean \pm SD, L/min	4.0 \pm 4.0	all
PaO ₂ , mean \pm SD, mmHg	70.0 \pm 22.0	209/246 (85.0%)
Temperature, mean \pm SD, °C	37.3 \pm 1.1	all
C-reactive protein, mean \pm SD, mg/L	133.0 \pm 94.0	all
Lymphocyte count, mean \pm SD, mCL	1339.5 \pm 2543.4	all
Delay between first symptoms and admission, means \pm SD, days	5.0 \pm 12.0	all
Characteristics at inclusion		
Delay between first symptoms and inclusion, mean \pm SD, days	8.0 \pm 4.0	all
Delay between admission and inclusion, mean \pm SD, days	3.0 \pm 11.0	all
SpO ₂ , mean \pm SD, %	94.0 \pm 4.0	all
O ₂ flow support, mean \pm SD, l/min	9.0 \pm 4.0	all
Systolic blood pressure, mean \pm SD, mmHg	131.0 \pm 20.0	all
C-reactive protein, mean \pm SD, mg/L	154.7 \pm 98.4	all
Temperature, mean \pm SD, °C	37.3 \pm 1.2	all
Lymphocyte count, mean \pm SD, mCL	1182.8 \pm 1850.9	all
eGFR, mean \pm SD, ml/min/1.73m ²	106.9 \pm 461.9	all
SpO ₂ /FiO ₂ ratio, mean \pm SD,	207.1 \pm 45.7	all
Lymphocyte count, mean \pm SD, mCL	1339.5 \pm 2580.5	239/246 (97.2%)
SpO ₂ , mean \pm SD, %	95.0 \pm 3.0	163/246 (66.3%)
Delay between inclusion and tocilizumab	1.0 \pm 1.0	106/106 (all)
PaO ₂ , mean \pm SD, mmHg	75.0 \pm 25.0	186/246 (75.6%)
C-reactive protein, mean \pm SD, mg/L	155.0 \pm 99.0	all
Use of non-invasive ventilation or high flow oxygenotherapy after inclusion	13 (5.3%)	all

Data are presented as number (percentage), unless otherwise noted.

Abbreviations: O₂: oxygen; ACEI: angiotensin conversion enzyme inhibitor; ARB: angiotensin II receptor blocker; BMI: body-mass index; eGFR: estimated glomerular filtration rate by modification of diet in renal disease (MDRD) formula; FiO₂: fraction of inspired oxygen; HIV: human immunodeficiency virus; IQR: interquartile range; SpO₂: pulse oximetry O₂ saturation

Sensitivity analyses

Cox multivariable models in the dataset of 204 patients (which excluded patients who presented the outcome during the first 48 hours after inclusion).

Primary outcome	Adj.HR	95CI	p-value
Tocilizumab	0.402	0.40-0.23	0.001
Full engagement status	0.985	0.98-0.98	<0.001
SpO ₂ /FiO ₂ ratio (per 1-unit increase)	0.398	0.40-0.23	0.001

Death outcome	Adj.HR	95CI	p-value
Tocilizumab	0.356	0.18-0.70	0.003
Full engagement status	0.030	0.01-0.12	<0.001
SpO ₂ /FiO ₂ ratio (per 1-unit increase)	0.985	0.98-0.99	<0.001