

TABLE S1 | Immunohistochemistry Procedures and List of Antibodies

Immunohistochemistry, except for staining for citrullinated histone H3 and DNA counterstain by the Feulgen method that was executed exactly as described (Obermayer et al.), was performed as per ISO15189 accredited standard diagnostic operating procedures of our institute on an automated stainer (Benchmark Ultra from Roche/Ventana Medical Systems, Tucson, AZ, USA). A list of all utilized antibodies, their dilutions and incubation conditions, and the antigen retrieval procedures are listed in Table S1. To verify/falsify VWF expression in lymph node histiocytes, VWF (AEC-based red read-out)/PU1 (DAB-based brown read-out) double stains were applied; these double stains were performed analogously to what was described elsewhere (Sterlacci W, Savic S, Schmid T, Oberaigner W, Auberger J, Fiegl M, Tzankov A. Tissue-sparing application of the newly proposed IASLC/ATS/ERS classification of adenocarcinoma of the lung shows practical diagnostic and prognostic impact. *Am J Clin Pathol.* 2012 Jun;137(6):946-56. doi: 10.1309/AJCP77KMKJXNMPMS. PMID: 22586054).

TABLE S1 |

Marker	Antibody source & clone or provider catalogue number	Retrieval Dilution Incubation
CD42b	Neomarkers Clone 42C01	CC1 16 min Ready-to-use 12 min
Fibrin	Dako A0080 Rabbit polyclonal	Pronase 30 min 1:100000 overnight
F VIII-R (VWF)	Ventana 760-2642 Rabbit polyclonal	CC1 24 min Ready-to-use 20 min
PU1	Abcam Clone EPR3158Y	CC1 32 min 1:800 28 min
Citrullinated histone H3	Abcam ab5103 Rabbit polyclonal	Citrate buffer (pH 6.7) at 95°C microwave 10 min 1:100 60 min

TABLE S2 | Comorbidities and Medication

	COVID-19	Control lungs	Control hearts	Control lymph nodes	All controls	P-values of differences COVID-19 vs.			
	(n=28)	(n=24)	(n=9)	(n=23)	(n=51**)	Lungs only	Hearts only	Lymph nodes	All controls
A. Comorbidities									
Hypertension (%)	20 of 25 (80%)	11 of 23 (48%)	4 of 9 (44%)	4 of 19 (21%)	17 of 46 (37%)	0.034	0.082	<0.001	0.001
Coronary artery disease (%)	12 of 26 (46%)	8 of 22 (36%)	2 of 9 (22%)	4 of 19 (21%)	10 of 45 (22%)	0.565	0.249	0.476	0.061
Diabetes mellitus (%)	7 of 24 (29%)	7 of 22 (32%)	1 of 9 (11%)	5 of 19 (26%)	10 of 44 (23%)	1.0	0.633	0.728	0.571
COPD (%)	4 of 25 (16%)	4 of 21 (19%)	1 of 9 (11%)	4 of 19 (21%)	6 of 43 (14%)	1.0	1.0	0.660	1.0
Malignancy (%)	7 of 25 (28%)	8 of 22 (36%)	6 of 9 (67%)	7 of 19 (37%)	19 of 44 (43%)	0.755	0.038	0.728	0.302
Smoking	9 of 15 (60%)	7 of 16 (43%)	5 of 9 (56%)	12 of 16 (75%)	20 of 35 (57%)	0.479	0.191	0.149	0.119
Active (%)	0 of 15 (0%)	0 of 16 (0%)	2 of 9 (22%)	5 of 16 (31%)	7 of 35 (20%)				
History of (%)	9 of 15 (60%)	7 of 16 (43%)	3 of 9 (33%)	7 of 16 (44%)	13 of 35 (37%)				
B. Medication									
Anticoagulation therapeutic (%)	20 of 24 (83%)	18 of 20 (90%)	5 of 7 (71%)	9 of 14 (64%)	27 of 36 (75%)	0.673	0.588	0.435	0.534
prophylactic (%)	7 of 24 (29%) 13 of 24 (54%)	8 of 20 (40%) 10 of 20 (50%)	4 of 7 (57%) 1 of 7 (14%)	2 of 14 (14%) 7 of 14 (50%)	12 of 36 (33%) 15 of 36 (42%)				
Anticoagulation BEFORE admission therapeutic (%)	6 of 20 (30%)	5 of 20 (25%)	2 of 7 (29%)	1 of 18 (6%)	7 of 40 (18%)	1.0	1.0	0.102	0.390
prophylactic (%)	4 of 20 (20%) 2 of 20 (10%)	4 of 20 (20%) 1 of 20 (5%)	2 of 7 (29%) 0 of 7 (0%)	1 of 18 (6%) 0 of 18 (0%)	6 of 40 (15%) 1 of 40 (3%)				
Platelet aggregation inhibition (%)	7 of 22 (32%)	3 of 19 (16%)	0 of 7 (0%)	3 of 17 (17%)	4 of 38 (11%)	0.292	0.134	0.688	0.80
Steroids (%)	2 of 26 (8%)	11 of 24 (46%)	5 of 8 (63%)	4 of 18 (22%)	17 of 45 (38%)	0.003	<0.001	0.658	0.006
Tocilizumab (%)	4 of 27 (15%)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Hydroxychloroquine (%)	14 of 27 (52%)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Other Antivirals Plasma	10 of 27 (37%) 1 of 27 (4%)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

*: Blood group (BG) distribution in the general population (Blood donor registry, Basel, Switzerland): BG 0= 39,5%, BG A= 44,7%, BG B= 11,1%, BG AB= 4,6%

** : Partially overlapping patients (i.e. lung and lymph node specimens from identical patients); therefore, n ≠ the sum of the n of specific organs.

†: Last available values before exitus; no older than 72h. P-values were calculated by two-sided Fisher's exact test.

TABLE S3 | Blood group distribution and Laboratory results

	COVID-19	Control lungs	Control hearts	Control lymph nodes	All controls	P-values of differences COVID-19 vs.			
Blood groups*	(data on n=21)	(data on n=22)	(data on n=8)	(data on n=17)	(data on n=42)				
A	9 (43%)	10 (46%)	4 (50%)	9 (53%)	21 (50 %)	1.0	0.675	0.502	0.789
B	1 (5%)	2 (9%)	0	1 (6%)	3 (7%)	1.0	1.0	1.0	1.0
AB	1 (5%)	2 (9%)	0	1 (6%)	2 (5%)	1.0	1.0	1.0	1.0
0	10 (48%)	8 (36%)	4 (50%)	6 (35%)	16 (38%)	0.543	1.0	0.720	0.589
Laboratory results†	(n=28)	(n=24)	(n=9)	(n=23)	(n=51**)	Lungs only	Hearts only	Lymph nodes	All controls
D-dimer (µg/ml)	Median 3.7 (mean 8.3) range: 0.43->20 (data on n=9)	Median 3.37 (mean 6.28) range: 0.42-18.49 (data on n=5)	Median 3.89 (mean 3.89) (range: 2.15-5.64) (data on n=2)	n/a (n=1: 18.49)	Median 3.37 (mean 5.6; range: 0.42-18.49) (data on n=7)	0.639	0.792	0.614	0.710
INR, median (IQR, range)	1.5 (0.6; 1.2-3.7)	1.25 (0.83; 0.9-3.8)	1.2 (1.43; 1.2-3.2)	1.1 (0.25; 0.9-2)	1.2 (0.65; 0.9-3.8)	0.359	0.523	0.011	0.077
CRP, mg/dl, median (IQR, range)	172 (168; 13-512)	118 (182; 4.1-610)	56 (221; 8.6-276)	75 (183; 0.4-335)	90 (177; 0.4-610)	0.115	0.079	0.056	0.018
Platelets (10 ⁹ /l), median (IQR, range)	197 (223; 16-434)	149 (237; 22-523)	124 (323; 19-631)	211 (224; 42-523)	162 (218; 19-631)	0.266	0.576	0.6	0.276
Leucocytes (10 ⁹ /l), median (IQR, range)	8.8 (5.69; 1.75-32.35)	10.79 (12.15; 0.55-39.56)	9.37 (12.23; 1.39-26.82)	10.23 (11.88; 4-30.9)	9.63 (9.6; 0.55-39.56)	0.249	0.922	0.318	0.400
Lymphocytes (10 ⁹ /l), median (IQR, range)	0.7 (0.59; 0.21-14.9)	0.74 (0.9; 0.04-11.6)	0.56 (0.28; 0.19-0.61)	1.61 (3.72; 0.57-14.96)	0.74 (1.01; 0.04-14.96)	0.812	0.441	0.036	0.633
Neutrophilic granulocytes (10 ⁹ /l), median (IQR)	7.03 (5.49; 3.2-28.85)	9.45 (13.47; 0.43-28.45)	6.4 (12.3; 0.68-15.7)	6.88 (9.91; 2.19-27.65)	7.82 (8.81; 0.43-28.45)	0.209	0.849	0.922	0.787

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†: Last available values before exitus; no older than 72h. P-values were calculated by two-sided tests (i.e. Fisher's exact test and Mann-Whitney U test).