SUPPLEMENTARY DATA

Table 1: Fatal influenza A and B virus infection

Reference	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Cohort details																								
Patients	100	68	45	44	34	21	20	19	15	12	9	9	8	8	7	6	6	5	4	4	4	3	2	2
Virus	H1N1	H1N1	B	H1N1	H1N1	H1N1	H1N1	H1N1	H1N1	H1N1	A	H1N1	H1N1	H1N1	H1N1	H1N1	H1N1	H1N1	H1N1	H1N1	A	H7N9	H1N1	H5N1
IMV	42	NA	NA	17	12	21	NA	NA	15	NA	4	NA	NA	8	7	6	5	0	NA	4	2	3	2	2
Age (years)	36[b]	27[b]	11[b]	40[b]	42[b]	34[b]	40[b]	57[b]	50[a]	27[a]	53[b]	33[a]	27[b]	40[a]	57[a]	30[a]	39[a]	28[b]	28[a]	36[a]	54[a]	73[a]	41[a]	19[a]
Lung pathology																								
DAD	100	42	8	44	25	20	6	9	15	2	7	9	8	8	7	5	5	4	4	4	3	3	2	2
Thrombosis	**17**	**5**	NA	**0**	**9**	**8**	**4**	NA	NA	NA	**1**	**Yes**	**0**	**6**	**7**	NA	**2**	NA	**4**	**3**	NA	NA	NA	NA
Vascular inflammation	NA	NA	NA	**0**	NA	**7**[c]	NA	NA	NA	NA	NA	NA	NA	NA	**Yes**[d]	NA	**1**[e]	NA	**3**[f]	**4**[g]	NA	NA	NA	NA
Bronchopneumonia	29	68	17	2	19	NA	5	1	3	8	NA	Yes	1	6	NA	NA	2	1	3	NA	NA	0	1	0
Bronchiolitis	NA	39	24	19	18	21	NA	13	15	10	8	2	8	NA	NA	2	Yes	NA	4	4	2	NA	0	NA
Alveolar haemorrhage	58	27	30	NA	8	5	13	10	15	3	9	Yes	8	3	NA	6	1	2	NA	3	4	2	1	NA

Table shows numbers unless otherwise stated.

[a]mean; [b]median; [c]perivasculitis involving $CD8^+$ T-cells; [d]perivasculitis involving $CD3^+$ T-cells; [e]perivasculitis involving mononuclear cells; [f]inflammatory infiltrate in medium vessel intima and endotheliitis (cell type not stated); [g]perivasculitis (cell type not stated)

NA: not available; IMV: invasive mechanical ventilation; DAD: diffuse alveolar damage

Table 2: Fatal SARS and MERS coronavirus infection

Reference	25	26	27	28	29	30
Cohort details						
Patients	20	8	6	3	1	1
Virus	SARS	SARS	SARS	SARS	MERS	MERS
IMV	NA	NA	6	NA	1	1
Age (years)	68[a]	42[a]	53[a]	48[a]	33	45
Lung pathology						
DAD	20	8	6	3	1	1
Thrombosis	**17**	NA	**1**	**Yes**	NA	NA
Vascular inflammation	NA	**Yes**[c]	NA	**Yes**[d]	**1**[e]	NA
Bronchopneumonia	10	0	NA	Yes	NA	NA
Bronchiolitis	NA	0	1	NA	NA	NA
Alveolar haemorrhage	17	NA	NA	NA	1	NA

Table shows numbers unless otherwise stated.

[a]mean; [b]median; [c]small vessel, cell type not stated; [d]small veins, involving monocytes, neutrophils and lymphocytes, with fibrinoid necrosis; [e]$CD4^+$ T-cells

NA: not available; IMV: invasive mechanical ventilation; DAD: diffuse alveolar damage

Table 3: Fatal Respiratory Syncytial Virus infection

Reference	31	32	33	34	35
Cohort details					
Patients	12	8	4	4	2
IMV	NA	0	NA	NA	0
Age (months)	NA	3[b]	12[a]	13[b]	19[b]
Lung pathology					
DAD	NA	0	1	3	NA
Oedema	12	8	NA	3	NA
Thrombosis	NA	NA	NA	NA	NA
Vascular inflammation	NA	NA	NA	**Yes**[c]	NA
Bronchopneumonia	NA	NA	2	NA	2
Bronchiolitis	7	7	1	4	2
Alveolar haemorrhage	NA	5	NA	1	NA

Table shows numbers unless otherwise stated.
[a]mean; [b]median; [c]mononuclear cells and infrequent eosinophils
NA: not available; IMV: invasive mechanical ventilation; DAD: diffuse alveolar damage

Table 4: Fatal Adenovirus infection

Reference	36	37	38	39	40	41	42	43	44
Cohort details									
Patients	18	6	3	2	1	1	1	1	1
IMV	NA	NA	2	0	0	1	1	NA	1
Age	8[a,c]	12.5[a,c]	1[a,c]	5[a,c]	11[a]	2[b]	67[b]	4.7[b]	5[b]
Lung pathology									
DAD	18	6	3	NA	1	1	1	NA	1
Oedema	NA	NA	NA	2	1	NA	NA	NA	NA
Thrombosis	NA	NA	**1**	NA	NA	NA	NA	NA	**1**
Vascular inflammation	NA	NA	NA	NA	NA	NA	NA	**1**[d]	**1**[e]
Bronchopneumonia	11	NA	NA	NA	NA	NA	NA	NA	NA
Bronchiolitis	NA	6	3	NA	1	NA	1	NA	NA
Alveolar haemorrhage	NA	NA	3	2	1	1	NA	NA	NA

Table shows numbers unless otherwise stated.
[a]months; [b]years; [c]mean; [d]necrotic vasculitis of pulmonary veins; [e]giant cells
NA: not available; IMV: invasive mechanical ventilation; DAD: diffuse alveolar damage

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