

eTable 1. Prospective vs retrospective cases (only confirmed setting and COVID-19 cases)

| | Prospective (n=309) | | Retrospective (n=655) | | p-value |
|-----------------------------------|------------------------|------------|--------------------------|------------|---------|
| | n | % | n | % | |
| Country | | | | | <0.0001 |
| Austria | 35 | 11.33 | 30 | 4.58 | |
| Brazil | 3 | 0.97 | 0 | 0.00 | |
| Egypt | 5 | 1.62 | 1 | 0.15 | |
| Estonia | 0 | 0.00 | 0 | 0.00 | |
| France | 1 | 0.32 | 21 | 3.21 | |
| Hungary | 76 | 24.60 | 25 | 3.82 | |
| Israel | 0 | 0.00 | 30 | 4.58 | |
| Italy | 48 | 15.53 | 117 | 17.86 | |
| Macedonia | 0 | 0.00 | 1 | 0.15 | |
| Moldova | 15 | 4.85 | 103 | 15.73 | |
| Norway | 50 | 16.18 | 0 | 0.00 | |
| Poland | 9 | 2.91 | 17 | 2.60 | |
| Portugal | 56 | 18.12 | 0 | 0.00 | |
| Romania | 0 | 0.00 | 84 | 12.82 | |
| Russia | 0 | 0.00 | 13 | 1.98 | |
| Switzerland | 5 | 1.62 | 37 | 5.65 | |
| Tunisia | 0 | 0.00 | 19 | 2.90 | |
| Turkey | 5 | 1.62 | 135 | 20.61 | |
| Ukraine | 1 | 0.32 | 22 | 3.36 | |
| Sex | | | | | 0.3672 |
| Male | 170 | 55.02 | 323 | 49.31 | |
| Female | 136 | 44.01 | 327 | 49.92 | |
| Intersex | 1 | 0.32 | 1 | 0.15 | |
| Unknown | 2 | 0.65 | 4 | 0.61 | |
| Smoking | | | | | 0.0025 |
| Yes | 22 | 7.12 | 98 | 14.96 | |
| No | 248 | 80.26 | 477 | 72.82 | |
| Unknown | 39 | 12.62 | 80 | 12.21 | |
| Source of COVID-19 contact | | | | | 0.0419 |
| Occupation | 19 | 6.15 | 56 | 8.55 | |
| Family member | 56 | 18.12 | 111 | 16.95 | |
| Social | 22 | 7.12 | 63 | 9.62 | |
| Travel | 10 | 3.24 | 6 | 0.92 | |
| Other | 24 | 7.77 | 37 | 5.65 | |
| Unknown | 178 | 57.61 | 382 | 58.32 | |
| | Median (n) | IQR | Median (n) | IQR | |
| Age at COVID-19 onset | 63 (297) | 47-76 | 63 (605) | 48-73 | 0.5396 |
| BMI | 26 (239) | 23-29 | 25 (594) | 23-28 | 0.8449 |
| | n | % | n | % | |
| Any comorbidity | 181 | 58.58 | 433 | 66.11 | 0.0233 |
| Hypertension | 151 | 48.87 | 350 | 53.44 | 0.1853 |
| Diabetes Type 1 | 4 | 1.29 | 4 | 0.61 | 0.2747 |
| Diabetes Type 2 | 69 | 22.33 | 136 | 20.76 | 0.5790 |

| | | | | | |
|--|-----|-------|-----|-------|---------|
| Cardiovascular disease | 94 | 30.42 | 194 | 29.62 | 0.7995 |
| Chronic kidney disease | 30 | 9.71 | 57 | 8.70 | 0.6108 |
| Chronic liver disease | 10 | 3.24 | 27 | 4.12 | 0.5040 |
| Chronic pulmonary disease | 37 | 11.97 | 54 | 8.24 | 0.0645 |
| Anemia | 19 | 6.15 | 30 | 4.58 | 0.3007 |
| Cancer | 35 | 11.33 | 49 | 7.48 | 0.0482 |
| Immunosuppressed state | 17 | 5.50 | 32 | 4.89 | 0.6844 |
| Other non-neurological comorbidity | 75 | 24.27 | 157 | 23.97 | 0.9184 |
| Dementia | 29 | 9.39 | 56 | 8.55 | 0.6694 |
| Parkinson's disease | 10 | 3.24 | 25 | 3.82 | 0.6529 |
| Stroke: ICH, ischemic stroke, TIA | 31 | 10.03 | 121 | 18.47 | 0.0008 |
| Multiple sclerosis | 7 | 2.27 | 40 | 6.11 | 0.0097 |
| Motor neuron disease | 1 | 0.32 | 3 | 0.46 | 0.7619 |
| Neuromuscular disorder | 5 | 1.62 | 7 | 1.07 | 0.4727 |
| Neuropathy | 11 | 3.56 | 22 | 3.36 | 0.8727 |
| Other neurological disease | 30 | 9.71 | 69 | 10.53 | 0.6935 |
| COVID systemic complications | 182 | 58.90 | 315 | 48.09 | 0.0017 |
| Dyspnea | 196 | 63.43 | 302 | 46.11 | <0.0001 |
| Pneumonia | 188 | 60.84 | 337 | 51.45 | 0.0063 |
| Cardiovascular | 29 | 9.39 | 91 | 13.89 | 0.0479 |
| Renal insufficiency / dialysis | 29 | 9.39 | 36 | 5.50 | 0.0246 |
| Coagulation disorder / disseminated intravascular coagulation | 20 | 6.47 | 25 | 3.82 | 0.0681 |
| Refractory shock | 5 | 1.62 | 33 | 5.04 | 0.0109 |
| Extra-corporeal membrane oxygenation (ECMO) | 2 | 0.65 | 3 | 0.46 | 0.7027 |
| Mechanical ventilation | 39 | 12.62 | 81 | 12.37 | 0.9109 |
| Neurological findings | 199 | 64.40 | 543 | 82.90 | <0.0001 |
| Headache | 129 | 41.75 | 258 | 39.39 | 0.4857 |
| Hyposmia / hypogeusia | 109 | 35.28 | 178 | 27.18 | 0.0103 |
| Dysautonomia | 49 | 15.86 | 89 | 13.59 | 0.3477 |
| Vertigo | 82 | 26.54 | 110 | 16.79 | 0.0004 |
| Myalgia | 104 | 33.66 | 175 | 26.72 | 0.0266 |
| Sleep disorders | 72 | 23.30 | 87 | 13.28 | <0.0001 |
| Cognitive impairment (including dysexecutive syndrome) | 97 | 31.39 | 188 | 28.70 | 0.3931 |
| Hyperactive delirium | 58 | 18.77 | 64 | 9.77 | <0.0001 |
| Hypoactive delirium / acute encephalopathy | 55 | 17.80 | 57 | 8.70 | <0.0001 |
| Stupor / coma | 33 | 10.68 | 91 | 13.89 | 0.1643 |
| Syncope | 19 | 6.15 | 32 | 4.89 | 0.4135 |
| Seizures / status epilepticus | 38 | 12.30 | 43 | 6.56 | 0.0028 |
| Meningitis / encephalitis | 20 | 6.47 | 22 | 3.36 | 0.0271 |
| Stroke | 64 | 20.71 | 188 | 28.70 | 0.0084 |

| | | | | | |
|------------------------------------|-----|-------|-----|-------|---------|
| Tremor | 18 | 5.83 | 49 | 7.48 | 0.3455 |
| Chorea | 0 | 0.00 | 1 | 0.15 | 0.4920 |
| Dystonia | 3 | 0.97 | 15 | 2.29 | 0.1579 |
| Myoclonus | 6 | 1.94 | 9 | 1.37 | 0.5063 |
| Dyskinesia | 0 | 0.00 | 12 | 1.83 | 0.0167 |
| Parkinsonism | 8 | 2.59 | 18 | 2.75 | 0.8868 |
| Ataxia | 35 | 11.33 | 51 | 7.79 | 0.0719 |
| Spinal cord disorder | 15 | 4.85 | 23 | 3.51 | 0.3173 |
| Peripheral neuropathy | 49 | 15.86 | 42 | 6.41 | <0.0001 |
| Other neurological findings | 39 | 12.62 | 82 | 12.52 | 0.9643 |
| Hospital admission | 267 | 86.41 | 536 | 81.83 | 0.0755 |
| ICU admission | 70 | 22.65 | 155 | 23.66 | 0.7293 |
| Pre-morbid mRS | | | | | 0.8584 |
| 0 | 165 | 55.74 | 320 | 51.61 | |
| 1 | 46 | 15.54 | 105 | 16.94 | |
| 2 | 31 | 10.47 | 64 | 10.32 | |
| 3 | 29 | 9.80 | 66 | 10.65 | |
| 4 | 18 | 6.08 | 45 | 7.26 | |
| 5 | 7 | 2.36 | 20 | 3.23 | |
| Missing | 13 | | 35 | | |
| Discharge mRS | | | | | 0.1127 |
| 0 | 20 | 27.68 | 11 | 28.11 | |
| 1 | 80 | 15.92 | 181 | 17.24 | |
| 2 | 46 | 15.22 | 111 | 11.18 | |
| 3 | 44 | 16.26 | 72 | 12.73 | |
| 4 | 47 | 8.65 | 82 | 9.63 | |
| 5 | 25 | 6.23 | 62 | 5.12 | |
| 6 | 18 | 10.03 | 33 | 15.99 | |
| Missing | 29 | | 103 | | |

BMI = Body mass index; **ICH** = Intracerebral haemorrhage; **ICU** = Intensive care unit; **mRS** = Modified Rankin Score; **TIA** = Transient ischemic attack

eTable 2. Patients with 6-month follow-up (N = 262)

| | n | % |
|-----------------------------------|-------------------|------------|
| Country | | |
| Austria | 20 | 7.63 |
| Brazil | 0 | 0.00 |
| Egypt | 1 | 0.38 |
| Estonia | 0 | 0.00 |
| France | 1 | 0.38 |
| Hungary | 9 | 3.44 |
| Israel | 2 | 0.76 |
| Italy | 52 | 19.85 |
| Macedonia | 0 | 0.00 |
| Moldova | 33 | 12.60 |
| Norway | 50 | 19.08 |
| Poland | 1 | 0.38 |
| Portugal | 13 | 4.96 |
| Romania | 56 | 21.37 |
| Russia | 0 | 0.00 |
| Switzerland | 6 | 2.29 |
| Tunisia | 0 | 0.00 |
| Turkey | 18 | 6.87 |
| Ukraine | 0 | 0.00 |
| Sex | | |
| Male | 131 | 50.00 |
| Female | 130 | 49.62 |
| Intersex | 0 | 0.00 |
| Unknown | 1 | 0.38 |
| Smoking | | |
| Yes | 25 | 9.54 |
| No | 224 | 85.50 |
| Unknown | 13 | 4.96 |
| Source of COVID-19 contact | | |
| Occupation | 41 | 15.65 |
| Family member | 37 | 14.12 |
| Social | 19 | 7.25 |
| Travel | 11 | 4.20 |
| Other | 12 | 4.58 |
| Unknown | 142 | 54.20 |
| | Median (n) | IQR |
| Age at COVID-19 onset | 59 (245) | 47-71 |
| BMI | 26 (244) | 23-29 |
| Any comorbidity | 167 | 63.74 |
| Hypertension | 129 | 49.24 |
| Diabetes Type 1 | 0 | 0.00 |
| Diabetes Type 2 | 48 | 18.32 |
| Cardiovascular disease | 59 | 22.52 |

Formattato: Tipo di carattere: Grassetto

| | | |
|--|-----|-------|
| Chronic kidney disease | 16 | 6.11 |
| Chronic liver disease | 8 | 3.05 |
| Chronic pulmonary disease | 33 | 12.60 |
| Anemia | 10 | 3.82 |
| Cancer | 25 | 9.54 |
| Immunosuppressed state | 11 | 4.20 |
| Other non-neurological comorbidity | 82 | 31.30 |
| <hr/> | | |
| Dementia | 12 | 4.58 |
| Parkinson's disease | 5 | 1.91 |
| Stroke: ICH, ischemic stroke, TIA | 37 | 14.12 |
| Multiple sclerosis | 5 | 1.91 |
| Motor neuron disease | 0 | 0.00 |
| Neuromuscular disorder | 6 | 2.29 |
| Neuropathy | 4 | 1.53 |
| Other neurological disease | 28 | 10.69 |
| <hr/> | | |
| COVID-19 systemic complications | 118 | 45.04 |
| Dyspnea | 118 | 45.04 |
| Pneumonia | 145 | 55.34 |
| Cardiovascular | 23 | 8.78 |
| Renal insufficiency / dialysis | 21 | 8.02 |
| Coagulation disorder / disseminated intravascular coagulation | 12 | 4.58 |
| Refractory shock | 1 | 0.38 |
| Extra-corporeal membrane oxygenation (ECMO) | 4 | 1.53 |
| Mechanical ventilation | 39 | 14.89 |
| <hr/> | | |
| Neurological findings | 199 | 75.95 |
| Headache | 107 | 40.84 |
| Hyposmia / hypogeusia | 91 | 34.73 |
| Dysautonomia | 25 | 9.54 |
| Vertigo | 47 | 17.94 |
| Myalgia | 76 | 29.01 |
| Sleep disorders | 45 | 17.18 |
| Cognitive impairment (including dysexecutive syndrome) | 66 | 25.19 |
| Hyperactive delirium | 40 | 15.27 |
| Hypoactive delirium / acute encephalopathy | 26 | 9.92 |
| Stupor / coma | 12 | 4.58 |
| Syncope | 5 | 1.91 |
| Seizures / status epilepticus | 21 | 8.02 |

| | | |
|------------------------------------|-----|-------|
| Meningitis / encephalitis | 7 | 2.67 |
| Stroke | 55 | 20.99 |
| Tremor | 11 | 4.20 |
| Chorea | 0 | 0.00 |
| Dystonia | 1 | 0.38 |
| Myoclonus | 2 | 0.76 |
| Dyskinesia | 1 | 0.38 |
| Parkinsonism | 5 | 1.91 |
| Ataxia | 13 | 4.96 |
| Spinal cord disorder | 8 | 3.05 |
| Peripheral neuropathy | 29 | 11.07 |
| Other neurological findings | 32 | 12.21 |
| <hr/> | | |
| ICU admission | 64 | 24.43 |
| Pre-morbid mRS | | |
| 0 | 158 | 62.20 |
| 1 | 48 | 18.90 |
| 2 | 17 | 6.69 |
| 3 | 17 | 6.69 |
| 4 | 7 | 2.76 |
| 5 | 7 | 2.76 |
| Missing | 8 | |
| Discharge mRS | | |
| 0 | 65 | 26.32 |
| 1 | 49 | 19.84 |
| 2 | 41 | 16.60 |
| 3 | 44 | 17.81 |
| 4 | 31 | 12.55 |
| 5 | 17 | 6.88 |
| Missing | 15 | |
| 6-month follow-up mRS | | |
| 0 | 82 | 32.00 |
| 1 | 56 | 21.90 |
| 2 | 39 | 15.20 |
| 3 | 37 | 14.50 |
| 4 | 16 | 6.30 |
| 5 | 6 | 2.30 |
| Missing | 6 | |
| <hr/> | | |

BMI = Body mass index; **ICH** = Intracerebral haemorrhage; **ICU** = Intensive care unit;
mRS = Modified Rankin Score; **TIA** = Transient ischemic attack

eTable 3. General characteristics of patients with new neurological manifestations at 6 months

| N. | Country | Age | Sex | Comorbidities | Antec Neuro | COVID-19 complic | mRS admission | mRS 6 mos | Sequela | New neurological manifestations |
|----|-------------|-----|-----|---|-------------|---|---------------|-----------|--------------------------|---------------------------------|
| 1 | Austria | 53 | M | Diabetes | - | Pneumonia, Dialysis Coagulation disorders, Headache, Hypogeusia, Myalgia, Peripheral neuropathy | N/A | 1 | - | Myopathy |
| 2 | Austria | 54 | M | Respiratory dis, Hypothyroidism | | Cardiovascular dis, Headache, Vertigo, Meniere | 0 | 2 | | Paresthesiae |
| 3 | Austria | 69 | F | Hypertension, Respiratory dis | - | Pneumonia, Cardiovascular dis, Peripheral neuropathy | 0 | 1 | - | Sleep disturbances |
| 4 | Switzerland | 64 | F | Hypertension, Cardiovascular dis, Liver dis, Anemia | | Pneumonia, Cardiovascular dis, Hemiparesis, Hemineglect | N/A | 4 | Hemiparesis, Hemineglect | Vertical diplopia |
| 5 | Hungary | 8 | M | Hypertension | - | Pneumonia | 0 | 0 | - | Fatigue |
| 6 | Italy | 44 | F | Cardiovascular dis, Gastrointestinal dis | Dementia | Seizures | 4 | 4 | Seizures | Status epilepticus |
| 7 | Italy | 58 | F | - | - | Pneumonia, Headache, Dysautonomia, Vertigo, Myalgia, Cognitive impairment | 0 | 1 | Fatigue | Paresthesiae |
| 8 | Italy | 68 | M | - | - | Pneumonia, Headache, Myalgia | 0 | 0 | - | Parkinson |
| 9 | Moldova | 53 | M | Hypertension, Diabetes, Cardiovascular dis | - | Myalgia | 0 | 3 | Hemiparesis | Seizures |
| 10 | Moldova | 71 | F | Hypertension, Diabetes | Park | Pneumonia | 0 | 4 | Hemiparesis | Recurrent stroke |

N/A = Not available; mRS = Modified Rankin Score