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119867
Benign COVID-19 in an aggressive case of aquaporin-4
Neuromyelitis optica treated with tocilizumab

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Background and Aims
Neuromyelitis optica (NMO) with antibodies (Abs) against aquaporin-4 (AQP4) is an astrocystopathy with severe spinal attacks resulting in mobility impairment. Relapse prevention is mandatory with immunosuppressants or anti-CD20 monoclonal Abs. Aggressive AQP4-Ab NMO could benefit by blocking the interleukin 6 (IL6) pathways with Tocilizumab. This IL6 inhibitor improved patient outcome in severe COVID-19 pneumonia.

Methods
Our case is a 52-year-old woman severely disabled by aggressive AQP4 NMO unresponsive to rituximab. One year after disease onset, she was bed-bound with tetra paresis related to several spinal attacks, mostly at the cervical level. She was repeatedly treated over the months with intravenous steroids, plasma exchange, and immunoglobulins. Meantime, two cycles of cyclophosphamide, and then three administrations of rituximab obtained no conclusive benefit on the inflammatory activity. Consequently, she started a third-line treatment with tocilizumab and finally stabilized after the two administrations.

Results
On intensive rehabilitation, she progressively improved her right arm function and became able to be on wheelchair. In this context, she developed fever and cough with no evidence of pneumonia and recovered in one week. Two nasopharyngeal swabs for SARS-CoV-2 resulted positive (day 1 and day 10) and a third negated at day 14. This mild COVID-19 infection resolved spontaneously without sequelae. On day 15 she continued with her monthly Tocilizumab infusions.

Conclusions
In our case, Tocilizumab was effective in preventing NMO relapses as a third-line treatment and resulted safe during COVID-19 pandemic.

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De Novo status epilepticus in COVID-19

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Background and aims
Neurological complications have been described in COVID-19. We present three COVID-19 patients (2 men, 74–78 years; woman 63 years) with acute de novo status epilepticus (SE) presentation in the period between November 2020 and March 2021.

Methods
All patients (nasopharyngeal swab for SARS-CoV-2 was positive, chest CT showed interstitial pneumonia) presented sudden onset of seizures/confusional state. Only one patient had a past medical history of epilepsy with seizure freedom from 35aa. Two patients had negative CT brain; scalp EEG showed widespread epileptic activity; in one patient the EEG showed right temporal PLEDS and positive brain CT/ MRI for right temporal–basal inflammatory lesion. CSF analysis for SARS-CoV-2 and neurotropic pathogens was negative.

Results
All patients were treated according to COVID-19 protocols (clexane, corticosteroids), O2 (as needed), Aciclovir (10 mg/kg per day); intravenous immunoglobulin (0.4 g/kg per day) were administered in one patient; benzodiazepines and antiepileptic drugs (Levetiracetam, Valproic Acid, Lacosamide according to SE protocols) were used as rescue-therapy. All patients presented seizures remission; one patient experienced rapid overall clinical improvement, while the other, despite the neurological improvement, showed a worsening of the pulmonary-respiratory condition.

Conclusions
The SE/confusional state can be the initial presentation of SARS-CoV-2 infection. A mechanism related to the systemic inflammatory

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COVID-19 associated stroke: Clinical forms and features of the disease

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Background and aims
To study the forms and features of the clinical duration of ischemic stroke in patients with coronavirus infection (COVID-19).

Methods
Analyzed 76 cases of ischemic stroke in two groups. The main group (n = 34; 44.7%) patients with ischemic stroke, in combination with COVID-19. The comparison group patients (n = 42; 55.3%) with ischemic stroke without clinical and laboratory confirmations of COVID-19. For confirmation of the diagnosis were used MSCT of the brain and laboratory PCR diagnostics.

Results
The average age of patients in the main group was 65.4 ± 2.3 and in the control group was 68.7 ± 1.8 years old. Comparison by sex showed that in both groups was a significant predominance of men in proportion with 2:1. The subtypes of ischemic stroke in the main group was dominated with unspecified and cardioembolic subtypes - 47.1% (n = 16) and 23.5% (n = 8), respectively. Atherothrombotic and lacunar subtypes were in 20.6% (n = 7) and 8.8% (n = 3) patients, respectively. In control group patients, the proportion of atherothrombotic subtype was 54.8% (n = 23), cardioembolic – 19.0% (n = 8), unspecified – 9.5% (n = 4) and lacunar – 16.7% (n = 7). The severity of ischemic stroke according to the NIHSS scale in the main group averaged 20.13 ± 8.16 more than in the control group 12.3 ± 7.61, p < 0.001. Assessment of the disability degree according to the Rankin scale showed that in the main group higher number than the control group with 6.00 and 4.00 respectively.

Conclusions
In ischemic stroke with COVID-19 patients, age characteristics have not be established. The predominant subtypes of the ischemic stroke in COVID-19 patients were unspecified and cardioembolic subtypes.

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