Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

pathogenesis. Clinical heterogeneity and confounding factors also impair the search for alternative mechanisms. Therefore, we studied the CSF of 13 patients with neurological symptoms during the acute phase of their hospitalization, looking for clues suggesting a specific dysimmune phenomenon.

Methods

CSF underwent conventional analysis and RT-PCR for SARS-CoV-2; a in-house HEK293 cell-based assay was also arranged to identify anti-spike antibodies. Albumin ratio, IgG index and oligoclonal bands were also assessed, along with a screening for autoimmune antibodies. First, commercial immunofluorescence and lineblot were used to detect common neuronal surface and intracellular antibodies, respectively; secondly, immunohistochemistry was performed on rat brain sections; lastly, CSF was incubated with fixed murine neuron and astrocyte cultures to confirm a potential auto-reactivity.

Results

CSF analysis disclosed a slightly increased protein level with a non-significant cell count (0–10 cells/uL). Neither SARS-CoV-2 nor common neuronal antibodies were detectable in the CSF, but we recognized anti-spike IgGs. 69% of the samples also showed neuropil staining, some of which had a common staining pattern involving the hippocampal dentate gyrus. Rodent primary cultures confirmed the presence of autoreactive antibodies against epitopes that are expressed in cortical neurons and/or astrocytes in most samples.

Conclusions

A strong immunoreactivity against spike protein was found in the CSF of those patients, even without a significant blood brain barrier permeability. The detection of auto reactivity with two different techniques could thus represent a dysimmune response to COVID-19 infection, perhaps suggesting molecular mimicry.

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Paediatric transverse myelitis during COVID-19 asymptomatic infection: A case report

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Background and aims

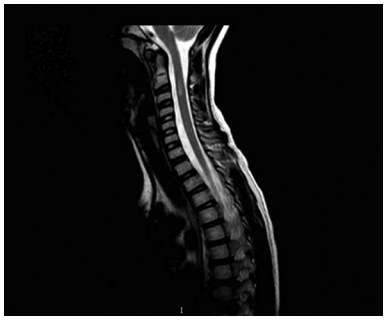
Paediatric Transverse myelitis (TM) is a rare, demyelinating immune-mediated disorder of the Central Nervous System. Its immunopathogenesis is not completely understood. Viral infections are recognized triggers that precede TM in 66% of cases. Although uncommon, neurological involvement with spinal cord damage can occur following SARS-CoV-2 infection. Although the co-occurrence of TM and SARS-CoV-2 is more frequently observed in adults, children may also be affected.

Methods

We report a pediatric case of TM during SARS-CoV-2 asymptomatic infection.

Results

A 12-year-old boy complained of severe nuchal pain that lasted for a few hours and was followed by hyposthenia on the right hemisoma persisting for approximately 12 h. Brain MRI scan was normal. Spinal cord MRI demonstrated a T2/FLAIR hyperintense



lesion, enhancing post-contrast, at C2 level. CSF and blood microbiology and virology were negative. CSF SARS-CoV-2 genoma sequencing and oligoclonal bands were negative. Serology for AQP4 and anti-MOG antibodies was negative. Acyclovir, azithromycin and high dose intravenous methylprednisone were also administered for 8 days. The patient completely recovered and was discharged after 11 days with steroid tapering. He had a follow-up spinal cord MRI a month later that returned normal.

Conclusions

Neurological complications during SARS-CoV-2 infection are rare in children, but may occur as a consequence of dysimmunity possibly triggered by SARS-CoV-2.

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119842

The first year of neurology and COVID-19: The importance of understanding neurological and biopsychosocial symptoms in acute and post neurocovid disease

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Background and aims

After the first year since its first reporting Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), causing Coronavirus disease 2019 (COVID-19), has infected nearly 120 million people and resulted in almost more than 2 million deaths globally. After one year from the first report of neurological symptoms in a Chinese patient, more than 55 countries to date have reported symptoms including impaired taste or smell, headache, dizziness, delirium, agitation, stroke, hypoxic ischaemic brain injury, seizures, coma, meningo-encephalitis, Guillain-Barré syndrome, myalgia, amongst others. Consequences seen in the follow-up periods of COVID-19 infection are also becoming more and more apparent mostly with reports of persistent problems with smell or taste, cognitive impairment, headaches, confusion, difficulty concentrating and sleep disturbance.

Methods

Recently more and more studies on long term consequences of acute COVID are being published, such as the Study NEXT, a