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COVID units, which had required different oxygen (O₂) therapy (no-O₂ = 9, low-flow O₂ = 35, CPAP = 26, intubation = 7). Participants underwent neuropsychological testing with the Brief Repeatable Battery of Neuropsychological Tests (BRB-NT) about 5 months after hospital discharge.

Results

Of all participants, 64% showed deficits in at least one test of the BRB-NT; the most affected functions were processing speed (41.6% of participants) and delayed verbal recall (27.3%).

O₂ therapy with CPAP was associated with worse verbal memory performance ($p = 0.033$), compared to no-O₂ therapy. Attention and processing speed deficits were not associated with type of O₂ therapy ($p = 0.889$), but correlated with thromboplastin (aPTT) ratio ($r_s = 0.298$, $p = 0.019$).

Worse delayed visuospatial recall was associated with hyposmia ($p = 0.011$) and dysgeusia ($p = 0.035$).

Conclusions

Cognitive deficits are frequent, persistent, and disabling even for five months following hospitalization for COVID-19. Therefore, neurological and neuropsychological monitoring should be put in place after discharge to help mitigate the effects of these symptoms, improving the quality of life of COVID-19 survivors.

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119805

The neurological manifestations of COVID19, the most extensive review of published case reports

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Background and aims

The spectrum of neurological involvement in COVID-19 has been rapidly reported during this pandemic in order to support fellow colleagues in prompt identification and management. This is the most extensive review of published case reports of neurological manifestations of COVID19. The aim of this study is to assess the frequency of neurological manifestations and complications, identify the neurodiagnostic findings, and compare these aspects between severe and non-severe COVID-19 cases.

Methods

A systematic search of PubMed, Scopus and Google Scholar databases was conducted for studies published between the 1st of January 2020 and March 2021. We included all published studies that were English or translated to English, patients from all demographics with a confirmed COVID19 infection (either non-severe or severe) and had sufficiently documented investigation efforts to reach a diagnosis of a neurological manifestations. The main outcomes of the study were to identify the frequency and nature of neurological manifestations and complications, and the neuro-diagnostic findings in COVID-19 patients.

Results

389 articles were included with a pooled sample size of 45,340 patients. The mean age was 55 years and 63% were males. The most common neurological manifestations were a combination of minor symptoms such as Myalgia, taste and smell impairment, headache, dizziness and most prominent major manifestations were vascular episodes, encephalopathy, seizures, neuropathies and Gullian Barre Syndrome.

Conclusions

Neurological involvement is common in COVID-19 patients (whether non-severe or severe). Prompt identification and management of these cases would improve outcome and decrease morbidity.

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119806

Critical illness neuropathy in severe COVID-19

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Background and aims

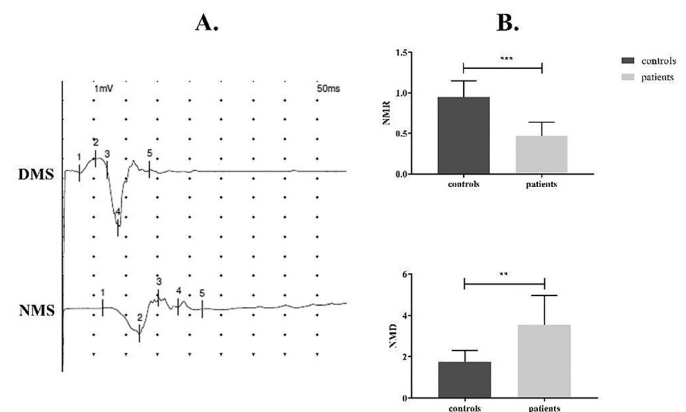
Neurological complications of COVID-19 have received a growing attention; few studies have described neurophysiological findings in COVID patients during their stay in Intensive Care Units (ICUs). We assessed the presence of either critical illness neuropathy (CIP) or myopathy (CIM) in ICU patients. The mean time of hospitalization in ICU was 17.2 ± 4.1 days.

Methods

Patients underwent a bilateral examination of the median, ulnar, deep peroneal and tibial motor nerves and of the median, ulnar, radial and sural sensory nerves. F-waves were recorded from abductor hallucis and abductor digiti minimi muscles. Needle electromyography (EMG) was performed for distal and proximal muscles. Direct Muscle Stimulation (DMS) was applied to the deltoid and tibialis anterior; peak to peak amplitudes and onset latencies of the responses evoked by DMS (DMS_{amp}, DMS_{lat}) or by motor nerve stimulation (MNS_{amp}, MNS_{lat}) were compared. The ratio MNS_{amp} to DMS_{amp} (NMR) and the MNS_{lat} to DMS_{lat} difference (NMD) were evaluated.

Results

Nerve conduction studies showed an axonal neurogenic pattern, with low SAPs and CMAPs amplitudes, as confirmed by needle EMG.



MNS_{amp} and NMR were significantly reduced when compared to controls ($p < 0.0001$), whereas MNS_{lat} and NMD were increased ($p = 0.0049$; see Fig. 1).

Conclusions

COVID patients suffered from a critical illness neuropathy (CIP), differently from the previous literature showing a higher prevalence of myopathy in non-COVID ICU patients. That could have implications for the functional recovery and rehabilitation strategies of COVID patients, thus delaying ICU discharge, also highlighting novel insights into the neuropathology of COVID-19.

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119807

Bilateral foot-drop secondary to demyelinating neuropathy post-COVID-19 infection: A case report

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Background and Aims

Covid-19 may cause several neurological symptoms and signs. We present the case of a 27-yo male with bilateral foot-drop after COVID-19.

Methods

A 27-yo male was diagnosed at the end of November 2020 with mild COVID-19. Twenty days later, he presented subacute right hallux paresthesia, extending to the leg and thigh followed by motor impediment in right dorsal foot flexion. In January 2021 similar symptoms involved the contralateral leg and subacute paresthesia developed in the upper limbs. Neurological exam showed steppage gait, conjugate nystagmus in right gaze, hypostenia of the lower and of the right upper limb and severe reduction of the right foot dorsiflexion. Infectious and autoimmune serological work-up was normal; CSF showed IgG 4.2mg/dl (n.v. <3.4) with no oligoclonal bands; Q Alb: 0.62 (n.v. < 0.45). Brain and spinal MRI showed a T2/FLAIR hyperintense lesion at the level of the bulbous-medullary junction. Nerve conduction study/electromyography showed a bilateral neuropathy of the peroneal nerves with segmental demyelination at the level of the fibular head and of the median nerves bilaterally at the level of the carpus. PMP22 gene was investigated, and no mutation was found. Nerve ultrasound did not show any alterations along the course of the peroneal nerves.

Results

Methylprednisolone sodium succinate was administered i.v. (1000 mg/d for five days). The neurological exam after one month showed a partial recovery.

Conclusions

There is a considerable need for studies regarding the potential impact of COVID-19 on the nervous system regarding pathogenesis, prognosis, and severity of disease.

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119808

Adequate access to mechanical thrombectomy during COVID-19 pandemic in lesser Poland Voivodeship in Poland

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Background and aims

Many studies have shown that COVID-19 pandemic decreased the access to mechanical thrombectomy (MT) in acute ischemic stroke (AIS) patients. We studied, if the pandemic affected the access to MT in Lesser Poland Voivodeship (LPV) located in southeastern Poland (3.36 million of inhabitants).

Methods

In LPV patients with AIS are admitted to the nearest stroke unit in the region (15-unit Stroke Network), where intravenous thrombolysis is performed. Those fulfilling the criteria for MT are admitted to the Comprehensive Stroke Unit at the University Hospital in Krakow. We compared the number of MT performed within 12 months before pandemic outburst, from March 2019 to February 2020 with the number of MT performed during pandemic, from March 2020 to February 2021. We also compared the time from

