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Cognitive impairment in previously independent COVID-19 patients: The tip of the iceberg?

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Background and aims

Several pathologies other than pulmonary disease have been attributed to COVID-19. No data are available on the cognitive status of postCOVID-19 subjects without a history of cognitive impairment.

Methods

Out of 285 subjects admitted to the Internal Medicine COVID Unit from November 2020 to January 2021, 48 patients [median age = 73.5 (23.25); 24M/24F] were recruited and evaluated with MoCA Test HAM-D, HAM-A; an evaluation of blood oxygen saturation and heart rate was performed before and after the assessment. Inclusion criteria were: radiologically confirmed symptomatic COVID-19 pneumonia, positive reverse transcription-polymerase chain reaction nasopharyngeal swab, being independent at home before the infection (Barthel Index = 100), not being previously diagnosed with cognitive impairment/neurological diseases, no delirium episodes during COVID-19 acute phase, no mechanical ventilation need and no oxygen supplementation at the time of evaluation.

Results

The median score of MoCA test was 20.5 (8) and no subjects showed relevant anxiety [median HAM-A score=5.5 (9)] and/or depressive symptoms [median HAM-D score = 5 (7.5)]. According to MoCA score, the sample was divided into two groups: 34 subjects with MoCA < 23 (Impaired Group) and 14 subjects with MoCA ≥ 23 (Normal Group). MoCA was correlated to age ($p = 0.0002$; $b = -0.571$).

Conclusions

The MoCA reveal that cognitive impairment is present in previously independent subjects and it is more detectable in subjects older than 65years compared to younger. No data are available to determine whether COVID-19 will lead to cognitive dysfunction related to the sub-acute phase of the infection or to an increase of long-term cognitive impairment, therefore a follow-up will be crucial.

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Cognitive and neuropsychiatric features of COVID-19 patients after hospital dismissal: An Italian pilot study

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Background and aims

Recent studies suggest cognitive, emotional, and behavioral impairments occur in patients after SARS-CoV-2 infection. However, studies are still few and to our knowledge, without a control group. This study aims to assess the prevalence of neuropsychological and neuropsychiatric impairment in patients after hospitalization.

Methods

We enrolled 17 Covid+ patients (M/F:12/5; age: 53.59 ± 12.32 yrs; education 11.88 ± 3.6 yrs) who needed hospitalization but no IC, about 18 days post dismissal, and 17 Covid- matched controls (M/F:11/6; age: 53.82 ± 12.34 yrs; education: 12.59 ± 3.77 yrs). Neuropsychological and neuropsychiatric assessments were conducted via tele neuropsychology with the following tests: MMSE, CPM47, RAVLT, CDT, Digit-Span Forward/Backward, Verbal fluencies; BDI-II, STAI, AES. People with previous cognitive impairment, neurological or psychiatric conditions were excluded. Clinical and demographics were collected. Comparison between groups was conducted using parametric or non-parametric tests according to data distribution (T-test, Mann Withney-U test; Chisquare).

Results

Among Covid+, 82% had at least one pathological test (vs 30% in Covid-; $p=0,001$) and significantly worst performances than Covid- in Digit Backward (4.05 ± 1.2 vs 4.8 ± 1 $p = 0.046$), RAVLTlearning (42 ± 9.4 vs 49.4 ± 7.9 $p = 0.018$), RAVLTrecall ($8,1 \pm 2,9$ vs $10.6 \pm 2,5$ $p=0,013$), Semantic Fluencies (43.7 ± 7.3 vs 50.6 ± 6.8 $p = 0.008$). STAI-Y2 was higher in Covid- (32.6 ± 7.4 vs 40.5 ± 7.9 $p = 0.005$).

Conclusions

Patients Covid+ assessed by tele neuropsychology showed a vulnerability in some memory and executive functions (working memory, learning and recall, semantic memory). Intriguingly, anxiety was higher in the control group. Our findings, therefore, confirm an impact of Covid-19 on cognition even in patients who did not need IC. Follow-up is needed to evaluate if these difficulties can recover with time.

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Cognitive and affective disorders in critical SARS-CoV-2 patients and caregivers

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Background and aims

We investigated cognitive and affective disorders in patients with SARS-CoV-2 hospitalized in Intensive Care Unit (ICU). Care givers quality of life, psychological distress and satisfaction with the information received by health-care professionals were assessed.

Methods

From March 1 to April 30, 2020, 22 consecutive patients with SARS-CoV-2 infection, confirmed by PCR on oronasopharyngeal swab, requiring ICU admission were recruited together with a caregiver. Patients with previous cognitive disorders were excluded. Three months after ICU discharge, patients underwent a

comprehensive neuropsychological evaluation and filled out validated questionnaires.

Results

Seven of 22 resulted mildly cognitively impaired. Memory was the most impaired domain, followed by attention and verbal fluency. Three out of 22 patients reported an average high level of anxiety but no depression. Quality of life was mild impaired for 19 patients. Lower performances at MoCA were related to higher APACHE score at T0 ($r = -.44$; $p < .04$). Lower performances in working memory, short- and long-term memory and verbal fluency were correlated to longer ICU stay, duration of mechanical ventilation and longer treatment with opioid and antipsychotics drugs ($r_s > -.48$; $p_s < .04$). Long term memory performances were related to higher Sequential Organ Failure assessment (SOFA) score and longer treatment with propofol and benzodiazepines ($r_s > -.53$; $p_s < .02$). Higher patient's anxiety was correlated to higher psychological distress of the caregiver ($r = -.64$; $p < .001$). Higher SOFA score is related to lower caregiver quality of life and lower satisfaction with information received ($r_s > -.53$; $p_s < .02$).

Conclusions

At 3 months from ICU admission, cognitive and psychological distress sequelae can be observed in SARS-CoV2 ICU patients.

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Italian botulinum toxin network recommendations for safe treatment of botulinum toxin infiltration during the COVID-19 pandemic: A video presentation

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Background and aims

Overview the physician and the patient come into close contact during treatments with botulinum toxin, increasing the chances of infection with the SARS-CoV-2 virus. What do we need to do to make the treatment safe and reduce the risk of contagion?

Methods

Botulinum toxin infiltration procedure Instructions for the Patient Wear non-sterile gloves and a surgical mask, and do not touch handles, surfaces or other objects. Dress and undress in the appointed place Instructions for the physician/paramedical staff

Remove all jewelry and personal items, Wash hands for 20", Put on PPE Physicians and nurses must put on a first pair of gloves, shoe covers, a cap, a disposable gown, an FFP2 mask, and protective glasses or a face mask and, lastly, a second pair of gloves.

Results

After treating each Patient the physician must remove the second pair of gloves, the disposable gown, and the protective glasses or face mask and sanitize them all. Lastly, he or she may remove the first pair of gloves. If the treatment takes place in the vicinity of the oral cavity, head or neck, the FFP2 mask must also be replaced. Medical Workers must clean all surfaces with which the Patient has been in contact at the end of each treatment session and, cover the most exposed surfaces with disposable barriers. As a final recommendation, the premises should be ventilated frequently.

Conclusions

Summary when these instructions are properly followed, they make the botulinum toxin infiltration procedure safe for the patient and the medical staff.

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Biochemical blood analysis of patients with COVID-19 complicated by cavernous sinus thrombosis

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Background and aims

Serious complications such as cavernous sinus thrombosis and osteonecrosis of the jaw have been reported in elderly and diabetic patients with covid-19. Dysmetabolism is a risk of developing such complications, severity of pathology and long-term treatment. Our aim was to study metabolic changes in the blood in diabetic patients suffered covid-19 complicated by cavernous sinus thrombosis.

Methods

Clinical analysis was carried out in 52 patients who applied to the multidisciplinary clinic of Tashkent Medical Academy for 4 months. The mean age of patients was 60 ± 3.5 years, of them 28 women (53.8%) and 24 men (46.2%) with complications thrombosis of cavernous sinuses. Patients were hospitalized an average of 1 month after the onset of acute Covid-19 infection.

Results

According to the analysis septic cavernous sinus thrombosis was 73.2%, aseptic cavernous sinus thrombosis - 26.8%. Biochemical analysis of the serum content of total protein and albumin was carried out, which caused the decrease of indicators to the lower limits of the norm in the blood. The mean increase in glucose was 13.7 ± 0.44 ($r < 0.001$), ALT (32 ± 0.24 U/L); AST (24 ± 0.44 U/L). creatinine was found the upper limit of norm. High-density lipoproteins (1.09 ± 0.16) decreased, and low- and very-low-density lipoproteins (4.78 ± 0.59) and atherogenicity indices were increased.

Conclusions

Change in a number of biochemical parameters (hypoproteinemia, dyslipidemia) and other metabolic disorders can aggravate the severe course of the underlying disease. Metabolic disorders (dyslipidemia) leads to vascular occlusion, increases microcirculatory disorders, negatively affect the outcome of treatment.

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