NEUROLOGICAL FEATURE OF COVID-19 AND ITS TREATMENT - CASE REPORT

FOLNOŽIĆ I.[1], *Gomerčić Palčić M.*[1, 2]

[1] Clinic of Internal medicine, Zagreb, Croatia
Clinical hospital center "Sestre milosrdnice'', Vinogradska 29, Zagreb, Croatia

[2] Medical School, Zagreb, Croatia
University of Zagreb, Šalata 3b, Zagreb, Croatia

Objective:

INTRODUCTION

COVID-19 (coronavirus disease 2019) is a multisystem disease with numerous post infection complications that can affect literally any organ. The exact mechanism by which COVID-19 infects CNS is not complitely understood, but target receptor for SARS-CoV-2 virus is the angiotensin-converting enzyme-2 (ACE 2) found also in the glial cells of the brain and spinal cord tissues. Retrograde transfer from the olfactory epithelium to the brain, disruption of blood-brain barrier during the viremia, and transfer from peripheral nerve terminal to CNS via synapse connected route are proposed mechanisms how virus can enter into CNS. After CNS infection, neurological damage most likely happens by immune-mediated damage during cytokine storm and/or neuronal damage in the setting of significant hypoxia due to severe pneumonia and acute respiratory distress syndrome.

CASE REPORT

We present a case of 82-years old man with a history of stroke, chronic renal failure, hyperlipidemia, gout and essential thrombocytosis (JAK 2+). Our patient presented with sore throat, cough, dyspnea, general weakness and loss of appetite. On physical examination only rare basal bilateral crepitation were heard. The chest X- ray confirmed bilateral pneumonia due to COVID-19 infection. He we shortly hospitalized and treated with ceftriaxone, dexamethasone, thromboprophylaxis and his chronic therapy. Oxygen therapy wasn't indicated. Fourteen days after discharge neurological symptoms occurred (involuntary head and limb movements, irritability, difficulties with sleeping, increasing confusion and urinary incontinence). Brain MRI and CT scan had showed old stroke lesion. Lumbar puncture didn't prove synthesis of IgG and PCR for SARS-CoV-2 was negative. Only typ IV oligoclonal bands were found. Our patient received bolus of immunoglobulins for five days resulting in partial neurological recovery. On three months outpatient control checkup patient had no evidence of respiratory or neurological disturbance with highly positive effect on quality of life.

CONCLUSION

Although patients during COVID-19 infection suffer from severe and possible lethal multiorgan dysfunction it can happen in post infection period too. We present the case where adequate and prompt treatment led to full neurological recovery. Clinicians and health professionals should warn patients of possible potential long-term complications due COVID-19 and encourage them to seek medical and mental health care for any condition they notice.

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