Commentary

Loss of consciousness due to COVID-19 should not go unexplained, even in an octogenarian

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We read with interest the article by Jaferpour et al. on an 89 years-old female who suffered sudden loss of consciousness after two days of coughing [1]. Cerebral computed tomography (CCT) did not provide any explanation for impaired consciousness [1]. Work-up for respiratory failure revealed COVID-19 pneumonia requiring mechanical ventilation four days after onset of the cough [1]. With standard treatment for COVID-19, the patient partially recovered after 26 days on the intensive care unit (ICU) and was discharged to her usual environment [1]. The study is appealing but raises concerns that need to be discussed.

A limitation of the study is that no electroencephalogram (EEG) was recorded. In a patient with sudden loss of consciousness it is mandatory to record an EEG and collect the family history with special attention to epilepsy in any of the first degree relatives. We should also know if the patient has suffered tongue biting or loss of stool or urine when fainting. One argument for a seizure is elevated creatine-kinase (CK) and elevated lactate dehydrogenase (LDH). We should also know how long the patient was unconscious and whether she was re-oriented immediately after waking or if there was a longer period of re-orientation.

A further limitation of the study is that no cerebral multimodal magnetic resonance imaging (MRI) was performed, including diffusion and perfusion weighted imaging (DWI, PWI) and apparent diffusion coefficient (ADC) mapping, to rule out acute ischemic stroke. Particularly small athero-thrombotic or embolic strokes are not visible in CCT. It is mandatory to carry out magnetic resonance angiography (MRA) with contrast medium to rule out occlusion of any of the proximal sections of the cerebral arteries.

Since venous sinus thrombosis (VST) is a common complication of SARS-CoV-2 infections [2], performing magnetic resonance venography (MRV) and determination of the D-dimer is crucial. We should know if the patient complained of headache upon waking, a symptom commonly reported by patients with VST [3]. A simple CCT without contrast medium is not suitable to rule out a VST.

Another limitation is that no electrocardiogram (EGG) was recorded [1]. To rule out de novo atrial fibrillation, atrio-ventricular conduction block, ventricular arrhythmias, or myocardial infarction it is crucial to acquire at least a standard ECG. It would be also interesting to know whether troponin or pro-brain natriuretic peptide (pro-BNP) was elevated or not. Evaluation of unconsciousness should also include transthoracic echocardiography and carotid ultrasound. Echocardiography is mandatory to assess systolic function, wall motion, and rule out intra-ventricular thrombus formation, myocarditis, and pericarditis.

It is also not reported whether the patient experienced dehydration or had low blood pressure when he lost consciousness. The current medication that the patient was taking regularly is also not mentioned. There is also no information on the cerebrospinal fluid (CSF) findings. If loss of consciousness remains unexplained, CSF tests are mandatory to rule out infectious encephalitis, immune encephalitis, meningitis, acute disseminated encephalomyelitis (ADEM), and cerebral vasculitis.

Overall, the interesting study has several limitations that call into question the results and their interpretation. Clarifying these weaknesses would strengthen the conclusions and could improve the study. Loss of consciousness should not go unexplained, even in an octogenarian.

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Was in accordance with ethical guidelines. The study was approved by the institutional review board.

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JF: design, literature search, discussion, first draft, critical comments, final approval, FS ü AA: literature search, discussion, critical comments, final approval.

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Guarantor

JF.

Consent to participate

Was obtained from the patient.

Consent for publication

Was obtained from the patient.

Availability of data

All data are available from the corresponding author.

Code availability

Not applicable.

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Declaration of competing interest

None.

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