

Lethal massive stroke in patient suffering from COVID-19

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The manifestation of COVID-19 pandemic is associated with neurological symptoms and complications including stroke. Coagulopathy and vascular endothelial dysfunction have been suggested as complications of Covid-19 and may predispose to stroke.

The incidence of stroke among hospitalized patients with COVID-19 was approximately 5% in China [1].

We report a case of a 62-year-old man admitted to the intensive care unit for PCR positive SARS-CoV-2 infection with fever and respiratory failure.

Despite mechanical ventilation, an extra-corporeal veno-venous membrane oxygenation (ECMO) was implanted on day 2 after intensive care admission for severe acute respiratory distress syndrome according to Berlin criteria. Recommend by the American College of Chest Physicians guidelines, a therapeutic anticoagulation with intravenous unfractionated heparin administration was added to prevent thrombotic complications. Renal replacement therapy was combined with the ECMO after the development of an anuric renal failure. On day four, the neurologic situation of the patient worsened with apparition of an unilateral acute mydriasis. A cerebral CT scan was immediately performed (Fig 1.,2.) to exclude intracranial bleeding but unexpectedly revealed extensive ischemic lesions related to thromboembolism phenomenon. Indeed, the middle and anterior cerebral arteries were obstructed by thrombotic material. The patient died a few hours later; initial CT scan showed signs of severe evolutive intracranial hypertension.

Final diagnosis

Ischemic stroke with thromboembolic origin on the territory of the anterior and middle cerebral arteries in the course of SARS-CoV-2 infection.

Comment

In the literature, multiples COVID-19 infection thromboembolic related cases are published but we did not find any article about massive stroke in a therapeutic-dose heparinized patient. This is why we decided to publish this case. It is to remind people the possibility of stroke despite adequate therapeutic measures.

Teaching point

The COVID-19 infection generates a state of hypercoagulability which, despite anticoagulation, leads to major thrombotic phenomenon.

References

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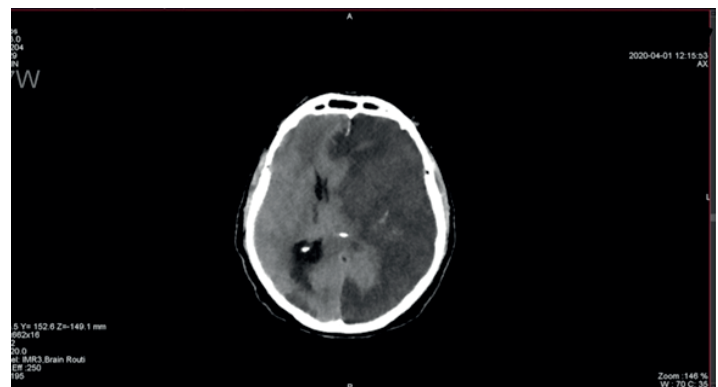


Figure 1. Cerebral CT-scan: axial section showing multiple ischemic brain lesions.

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