



(RESEARCH ARTICLE)



Severe SARS COV2 pneumonitis and stroke about two cases

Jamal Oujaber *, Soufiane Sassi, Rachid Benchanna, Hicham Janah, Rachid Bouchentouf and Amine Benjelloun

Department of Pulmonology, Avicenne Military Hospital, Cadi Ayyad University, Marrakech, Morocco.

World Journal of Advanced Research and Reviews, 2024, 23(01), 836–838

Publication history: Received on 31 May 2024; revised on 07 July 2024; accepted on 09 July 2024

Article DOI: <https://doi.org/10.30574/wjarr.2024.23.1.2066>

Abstract

In late December 2019, coronavirus disease was first reported in WUHAN, China.

Clinical presentation varies from asymptomatic infection to severe pneumonia often associated with cardiovascular, thromboembolic and neurovascular complications most notably stroke.

Ischemic stroke is a diagnostic and therapeutic emergency both outside and during the covid19 crisis, we report two clinical cases of patients who presented with an episode of stroke during their hospital stay in the units dedicated to covid19.

Keywords: SARS-CoV-2; Pneumonitis; Ischemic stroke; Acute respiratory distress

1. Introduction

The pandemic context of COVID-19 has seen a significant recrudescence of thromboembolic complications represented mainly by ischemic strokes with a wide variety of clinical presentations.

COVID-19 is an infectious vascular pathology with a major impact on the hematopoietic system and hemostasis.

Recent studies have shown that more than 5% of patients admitted with COVID-19 have had strokes, increasing the mortality rate.

Ischemic stroke represents a diagnostic and therapeutic emergency, impacting both vital and functional prognosis. Rehabilitation must be early and adapted to optimize functional recovery.

2. Patients and observations

The first case was a 78-year-old patient, who had smoked for 25 years and was treated for arterial hypertension.

He had asthenia, cough and fever for 10 days followed by respiratory failure and confusion.

On the emergency department, the examination revealed an obtunded patient with a Glasgow score of 9/15, poorly reactive pupils, an oxygen saturation of 75% on room air rising to 98% under a high-concentration mask with a flow rate of 12 l/min and a respiratory rate of 34 cycle/min.

* Corresponding author: J. Oujaber

The thoracic CT scan showed a suggestive aspect of covid 19 viral pneumopathy classified as CORADS 5, with moderate damage (25%-50%),

The cerebral CT scan showed a pattern suggestive of ischemic stroke of the brain stem, and RT-PCR for SARS-CoV-2 was positive.

The patient was admitted to intensive care and received a curative dose of low-molecular-weight heparin with a platelet anti-aggregant (KARDEGIC) 160mg/day combined with Clopidogrel (Plavix 300mg/day then 75mg/day), also (Azithormycin, Lopinavir-Ritonavir), Vitamin C and Vitamin D and trace elements (ZINC), with gastric protection.

His respiratory status deteriorated, he died of oxygen-refractory hypoxemia complicating his ischemic stroke.

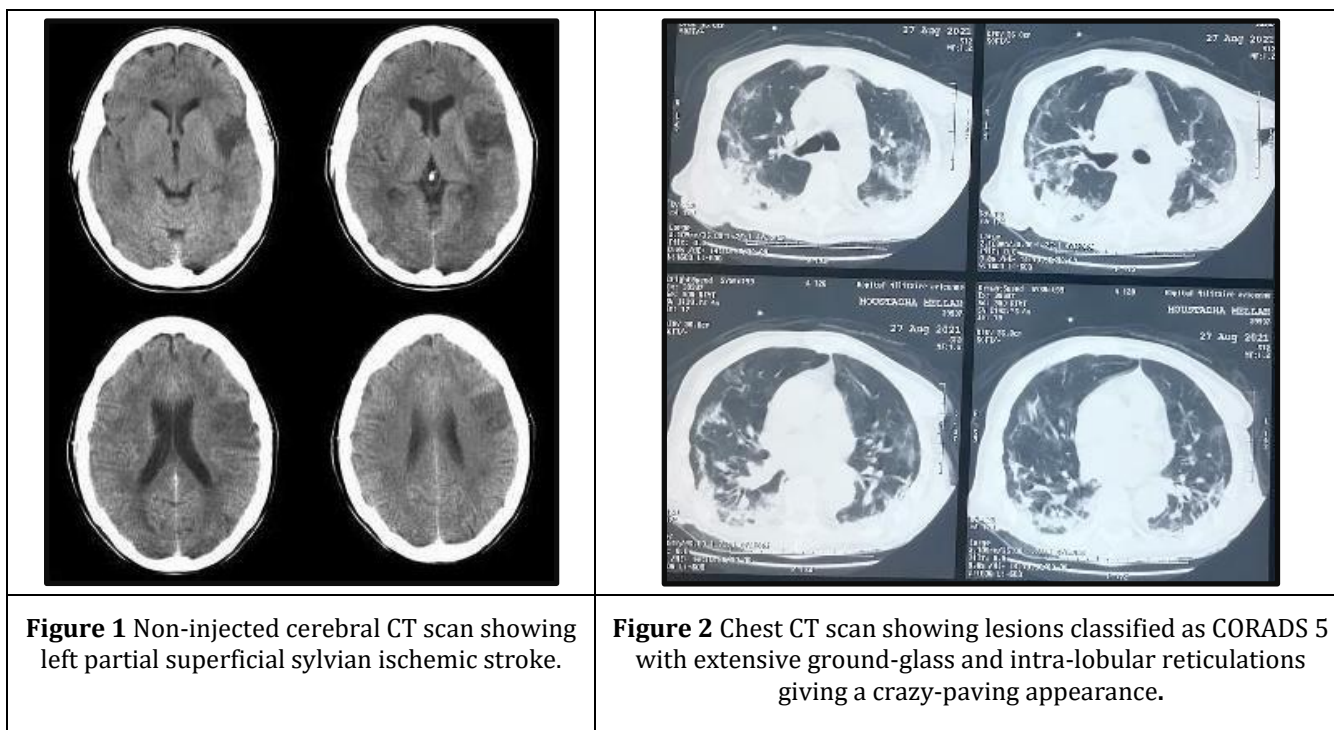
The 2nd case is an 86-year-old patient, receiving an vitamin K antagonist for atrial fibrillation, who was admitted for a sudden disturbance of consciousness, associated with respiratory distress.

Clinical examination revealed a Glasgow score of 9/15, oxygen saturation at 55% in air, and the history revealed that two members of his family had been positive for COVID 10 days ago.

The thoracic CT scan showed COVID-19 lung involvement classified as CORADS 5 with 30% extent, the PCR was positive, the cerebral CT scan showed AVCI in the superficial territories of the left middle cerebral artery.

On admission to the intensive care unit, the patient was intubated and ventilated for neurological criteria in controlled assisted ventilation mode. He received a curative dose of low molecular weight heparin (discontinuation of the vitamin K antagonist) combined with an antiplatelet agent and large-spectrum antibiotics.

The evolution has been marked by the appearance of cardiogenic shock; the patient died the following day.



3. Discussion

SARS-CoV-2 infection should be suspected in any patient presenting for stroke with typical COVID-19 symptoms (fever, sore throat, dry cough, asthenia, dyspnea).

In a Chinese retrospective study, the incidence of stroke was 5.9% of cases with a median time of 10 days after the onset of the first symptoms.

These patients were older, had cardiovascular comorbidities (hypertension and diabetes) and suffered from more severe respiratory disease. They also had a more significant inflammatory and prothrombotic syndrome with a significantly higher increase in neutrophils, CRP and D-Dimer.[1]

In case of stroke with neurological deficit, thrombolysis (within 3 hours with a maximum delay of 5 hours) should be considered. The fibrinolysis technique by rt-PA gave better results, beyond 3 hours after the onset of symptoms it is contraindicated [2].

rt-PA treatment is not recommended in the following patients: current oral anticoagulant treatment or INR > 1.7; heparin treatment in the 24 hours preceding the stroke and prolongation of the APTT; platelets < 100,000/mm; another stroke or severe head trauma in the previous three months; gastrointestinal or urinary hemorrhage in the previous 21 days; a recent MI; blood sugar < 0.5g/L or > 4g/L ...[3]

Furthermore, arterial thrombectomy in stroke has demonstrated its effectiveness for all ages, including those over 80 years old. It is effective for thrombosis of the Sylvian artery and also for carotid thrombosis extended to the Sylvian artery. The treatment window is up to 6 hours after the onset of clinical signs.

According to the recommendations of the Society of Neuro interventional Surgery, infection with SARS-CoV-2 should not modify the inclusion and exclusion criteria for mechanical thrombectomy,

Experts recommend prescribing anticoagulants in the acute phase in patients who have undergone thrombolysis or thrombectomy and in whom infection with SARS-CoV-2 was suspected or confirmed.

In the absence of thrombolysis or thrombectomy, in patients with suspected or confirmed infection, single or dual antiplatelet therapy should be initiated if the cardioembolic origin of the stroke has been eliminated.

4. Conclusion

SARSCOV2 infection appears to have a cerebral tropism involving several pathophysiological mechanisms whose complications constitute a poor prognostic factor; further research is necessary so that the most appropriate therapeutic means are undertaken.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

References

- [1] Li Y, Wang M, Zhou Y, Chang J, XianY, Mao L, et al. Acute cerebrovascular disease following COVID-19: a single center, retrospective, observational study. SSRN Electron J 2020, <http://dx.doi.org/10.2139/ssrn.3550025>.
- [2] Powers WJ, derdeyn Cp, Biller J, Coffey Cs, Hoh Bl, Jauchec, et al. 2015 American Heart Association/American Stroke Association focused update of the 2013 guidelines for the early management of patients with acute ischemic stroke regarding endovascular treatment
- [3] Nicolas Bruder, Salah Boussen, Accident vasculaire cérébral ischémique, Le Congrès Médecins. Conférence d'Essentiel, 2016