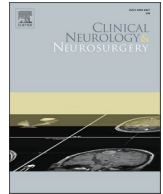




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Correspondence

Re: The choice of intravenous thrombolysis for Acute Ischemic Stroke under COVID-19 infection

Dear Editor,

We read with great interest the recent publication by Gao X (2020), where some practical points on management of acute ischemic stroke (AIS) during the coronavirus 2019 (COVID-19) pandemic is discussed [1]. Several studies have shown that SARS-CoV-2 infection could present with various neurological manifestations including AIS [2–7] and with the daily increase in the number of the infected symptomatic or asymptomatic individuals worldwide, we might encounter more AIS patients in the future.

While early revascularization, through either intravenous thrombolysis (IVT) within the first 4.5 h of symptom onset, or mechanical thrombectomy is critical in preventing further irreversible damage to the brain tissue [8,9], several precautionary measures including mandatory universal SARS-CoV-2 screening for all of the patients at the time of presentation to the emergency department (ED), pursuing infection control and preventive measures, management of other SARS-CoV-2 infection related symptoms in the case of coexistence of SARS-CoV-2 infection and AIS and heavy burden of the SARS-CoV-2 infection related issues on the ED personnel, physicians and imaging facilities along with collateral effect of COVID-19 [10] have all contributed toward a significant delay of acute treatment and subsequently an increase in the AIS related mortality and morbidity during the current pandemic [8,11,12].

The timely management of the AIS with ideally door to IVT less than 60 min is pivotal. While we agree entirely with the strategic planning proposed by Gao [1] in terms of adjusting patients' transfer protocols and IVT processes of AIS patients during the ED visits; the authors think some additional steps including the substitution of Alteplase with Tenecteplase as proposed by Warach et al. [13] could be quite helpful in reducing ED spread of SARS-CoV-2 infection to other patients and the healthcare providers. Apart from the known COVID-19 cases presenting with AIS, there is a group of asymptomatic carriers where stroke might be the presenting manifestation of SARS-CoV-2 infection or patients with AIS where inherent difficulty of assessment of prior symptoms and SARS-CoV-2 infection exposure makes the clinical suspicion to SARS-CoV-2 infection difficult. In the absence of known SARS-CoV-2 infection, the result of the SARS-CoV-2 infection screening test performed on AIS patients presenting to the ED may return after the neurological and imaging assessment and acute treatment. Reducing the exposure time of the personnel with the potential positive patients and assuming all individuals are infected the SARS-CoV-2 along with complete isolation precautions until the return of the screening test result is of utmost importance.

National shortages of Alteplase secondary to supply chain disruption after emerging SARS-CoV-2 infection, requiring an infusion dose which takes 60 extra minutes, need for a second IV access and a pump (which might be associated with risk of SARS-CoV-2 contamination) and needed

time for weight measurement and weight-based dose calculation are all downsides of Alteplase compared with a single dose administration of Tenecteplase in the management of AIS [13]. While Tenecteplase offers a comparable safety and efficacy profile and superior potential for recanalization compared with Alteplase, its workflow, time saving, financial and overall infection risk reduction benefits makes it an ideal option for management of AIS during the current COVID-19 pandemic [13]. While the chance of unfavorable outcomes after IVT for AIS is higher in patients with SARS-CoV-2 infection, the risk of intracranial hemorrhage after IVT was not higher in a recent study [14].

At the end, we would like to congratulate Gao in bringing up such an important issues and would support the modification of the AIS management protocols to address the current pandemic related shortcomings in the healthcare systems when treating patients with AIS. Focusing on timely management of the AIS and achieving satisfactory results should be joined with the efforts that make the spread of virus hindered.

Declaration of Competing Interest

None.

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