

Chilean Guidance for Optimal Stroke Care During The COVID-19 Pandemic

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INTRODUCTION

The coronavirus disease, called COVID-19, is caused by the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). It is transmitted mainly through exposure of mucous membranes or the conjunctiva to infected respiratory droplets or by contact with fomites. The reported mortality rate is 2-3%, which varies by local reality. Most COVID-19 deaths occur in older people and/or people with comorbidities such as diabetes mellitus and hypertension, groups in which the mortality increases.

The SARS-CoV-2 infection can occur in several ways, with fever and respiratory symptoms being the most common manifestations. Neurological symptoms have also been reported, which may temporarily coincide or even precede respiratory symptoms or fever. Stroke is presented as a complication of COVID-19 in 5.9% of patients, including encephalic infarctions, intracerebral hemorrhages and cerebral venous sinus thrombosis. Coagulopathy associated with inflammatory state and cardioembolism secondary to direct heart damage by the virus, have been proposed as the pathophysiological mechanisms.

The Hospitalist and Cerebrovascular Neurology Working Group (GDT) of the Society for Neurology, Psychiatry and Neurosurgery (SONEPSYN) in conjunction with the Adult Neurology Advisory Working Group of the Ministry of Health of Chile, concerned about the care of people with Stroke during the SARS-CoV-2 pandemic, has developed these guidelines with the aim of providing technical support to professionals dedicated to the care of these patients during the sanitary emergency. These guidelines have been developed based on the experience and opinion of various national experts in the area, in accordance with the recommendations contained in the Clinical Practice Guidelines of the Ministry of Health of Chile developed with GRADE method, currently in force, and supported by the international evidence available on the subject.

PURPOSE

Provide guidance on preventive measures and care for people who have a stroke, in

the context of the SARS-CoV-2 pandemic. This document will be updated periodically, according to national health needs and new available evidence.

SCOPE

Aimed at healthcare teams throughout the country related to the care of people with a stroke. It is an orientation for teams and it does not replace clinical judgment.

Document subject to periodic evaluation and updating, according to the evolution of the national situation and availability of new evidence.

These guidelines are based on expert opinion, in accordance with the recommendations of the current Clinical Practice Guidelines and stroke evidence in the context of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic.

EMERGENCY CARE

a) People consulting the emergency services with a suspicion and / or confirmation of acute ischemic stroke and who are within the time window to receive brain reperfusion therapies, should continue to be treated as recommended in the Clinical Practice Guideline Acute Ischemic Stroke 2018 and the Pocket Manual "Stroke Code" of the Ministry of Health. An early and prompt management is recommended, considering the limitations of healthcare team in the emergency room and, therefore, if available, the alternative of single bolus thrombolytic is preferable to an one hour infusion.

b) In patients with a suspected or confirmed stroke, consider -according to local reality- a chest computed tomography (CT) without contrast in conjunction with the images of the brain and neck.

c) In patients, not suitable for mechanical thrombectomy, it is also suggested to perform a computed tomographic angiography (CTA) of neck and brain vessels, as indicated by the neurologist, at the time of performing a brain CT without contrast. This, with the aim of advancing in the etiological study, reducing the number of transfers within the establishment.

d) In the pre-hospital setting, it is suggested to organize the healthcare facilities of patients with suspected and / or confirmed stroke or transient ischemic attack (TIA) through the use of telemedicine. This, especially for the evaluation of patients requesting the transfer from less complex hospitals to the most appropriate hospitals for evaluation by a neurologist. In this way, it is expected that it will be able to carry out a triage and avoid any unnecessary transfers.

e) The authors suggested to speed up the care of patients with suspected and / or confirmed stroke in emergency department, in order they are only exposed for the shortest possible time. This involves taking the necessary tests within the shortest possible time. For example, in people with suspected stroke outside therapeutic window for reperfusion therapy, perform a brain CT within one hour.

f) Regarding patients with a TIA, it is suggested to perform a telephone triage prior to the transfer to the emergency room, with access to blood pressure and electrocardiogram (ECG), in order to define the patient risk. It is suggested to consider early discharge, after evaluation by a neurologist with ECG and CTA of neck and brain vessels. Ensure delivery of drugs for secondary prevention and a follow-up by phone within the first 72 hours.

g) In patients with mild deficits, consider the possibility of early discharge, after evaluation by a neurologist with ECG and AngioTC of neck and brain vessels, in order to avoid unjustified stays. Ensure delivery of drugs for secondary prevention and a follow-up by phone within the first 72 hours. A rapid coordination with a physiatrist and / or rehabilitation healthcare team is necessary.

HOSPITALIZATION.

The following suggestions are aimed at optimizing the clinical management of patients with a stroke, shortening the hospital stay to the minimum possible time, according to the clinical condition of each patient. This is expected to reduce the risks of infection and contribute to generating quotas for hospitalization of people

with COVID-19.

a) Reduce or restrict family visits to then necessary minimum, giving priority to feeding and rehabilitation hours, in order to reduce the possibility of external contagion of COVID-19. The visit during rehabilitation hours is essential to educate the family or caregiver on critical issues: feeding, swallowing, cognitive stimulation, exercises, indication of technical aids, among others.

b) People who are hospitalized for a stroke must be evaluated, access the corresponding etiological study and receive the treatments indicated, under the care of neurological doctors (face-to-face or by telemedicine, depending on local reality), or under supervision of these, according to medical criteria and local conditions. This will allow a rational and limited use of the exams for the etiological study, individually.

c) Try to complete the etiological study during the hospitalization, as far as possible. Limit the study to what is essential, as indicated by the neurologist specialist.

d) In patients with ischemic stroke, defer the request for a holter monitoring and echocardiogram if there is no suspicion of cardioembolic origin. Remember that all patients with ischemic stroke must have a standard ECG on admission.

e) In patients requiring carotid endarterectomy, if not possible to perform this during hospitalization, it is suggested that they be discharged with double antiplatelet agents and statins, pending the procedure.

f) It is suggested, as far as possible, that a single professional team (neurologist, kinesiologist, phonoaudiologist) attend to patients with a stroke and COVID-19, in order to reduce the risk of transmission to patients with a stroke but without COVID-19.

g) Give priority to carrying out portable radiological studies (chest radiography, control radiograph of the naso-enteral tube), to reduce

the patient's intrahospital movements and reduce the risk of COVID-19 transmission.

h) In patients presenting in-hospital fever with respiratory symptoms or without obvious focus, consider performing COVID-19 PCR by nasopharyngeal swab and report the case.

i) Before the patient is discharged from the hospital, verify that he / she has been vaccinated against seasonal influenza and, if he / she has not, manage his / her vaccination before discharge. If the hospital does not have a vaccination, the patient should be vaccinated in its primary care facility, avoiding crowds or, in the case of bedridden patients, the primary care team will vaccinate during a home visit.

j) If, due to the contingency, it is decided to refer patients with a stroke to less complex establishments that do not have a neurologist, it is suggested to implement a neurological control system by telephone or videoconference, with access to clinical information, the results of laboratory tests and neuroimaging.

k) It is suggested to involve the patient's family early in the process, ideally from the moment the patient enters the facility, to clearly explain what the hospitalization objectives are and the estimated deadlines, promoting the articulation of family support networks for the continuity of care after discharge.

l) It is suggested to evaluate case by case with the doctor physiatrist or rehabilitation healthcare team the criteria of "safe discharge". The management of dysphagia, the feeding route, caregiver education in prevention and detection of complications, are elements to consider for safe discharge. Keep only patients hospitalized without the possibility of home rehabilitation. Consider telerehabilitation models.

SECONDARY PREVENTION

a) In patients on anticoagulant treatment for nonvalvular atrial fibrillation the use of direct oral anticoagulants (DOAC) (which do not require frequent laboratory controls) is, when feasible, favourable over the use of

vitamin K antagonists (VKA), following the recommendation of the 2018 Ischemic Stroke Clinical Practice Guide.

b) The differences between DOAC and VKA are probably small. However, since direct anticoagulants do not require dose monitoring, they could benefit people with difficulty accessing a health center and avoid possible infection.

c) In VKA users, according to the local reality, it is recommended to organize the collection of the blood sample for a control examination at the patient's home and to adjust the therapy using telemedicine. If this is not possible, keep the medical appointments according to the local program, maintaining social distancing and other preventive measures.

d) In COVID-19 VKA users treated with azithromycin, lopinavir / ritonavir or tocilizumab, closely monitor the international normalized ratio (INR), since there are potential pharmacological interactions.

e) In patients with heart rhythm disorders with stroke and COVID-19 treated with hydroxychloroquine and / or azithromycin, monitor for the possibility of QT prolongation and the appearance of ventricular arrhythmias.

f) In relation to the use of hypotensive drugs in patients with COVID-19, in people with an indication of ACEI, ARAII or diuretics, it is recommended for now to maintain this prescription.

FOLLOW-UP

It should be emphasized that people with stroke are in the group with the highest risk of complications in case of a COVID-19 infection. For this reason, pre-discharge education is particularly relevant.

a) At the time of hospital discharge, deliver medications for at least 30 days.

b) Prioritize medical monitoring and home rehabilitation, according to the physiatrist's indication, ensuring the availability of drugs.

c) Estimate whether post-discharge on-site neurological appointment is absolutely necessary, or can be performed remotely (telemedicine).

d) Although, it is desirable that the neurological monitoring is performed in person, given the high risk involved in exposing the patient in the context of the pandemic, it is recommended, to the extent possible, to implement a neurological control system by telephone or videoconference, counting for this with access to the information of the clinical record, the results of laboratory tests and neuroimaging.

e) As mentioned before, control could be carried out at the hospital of origin or instead with access to the electronic file, in an adequate and safe space to carry out telemedicine, including within the possibilities the domicile of the doctor (telework). It is suggested to select those patients in whom face-to-face control is essential.

f) If more than one neurological control is required, it is suggested that, if viable, these should also be carried out using telemedicine.

g) It is suggested that the monitoring of adherence to pharmacological treatment and the scheduling of medical appointments are carried out by telemedicine and done by a nurse trained in stroke.

h) It is suggested that, after the first 30 days after discharge, the medication is dispatched to the patient's home, after remote control with the doctor and nurse

AMBULATORY CONTROLS

In patients who leave a hospital or clinic with a diagnosis of stroke, it is suggested to carry out the first appointment with a neurologist within the first 30 days after discharge.

Due to the high risk of aspirative pneumonia in patients diagnosed with moderate or severe dysphagia, they must be controlled at home or remotely by a phonoaudiologist.

TELEMEDICINE

a) Regarding the evaluation by telemedicine of patients with suspected stroke in time window for brain reperfusion therapies, it is suggested that in the hospital (where the patient is located), a different attention room should be used than the one for care of patients with suspected or confirmed COVID-19. This, in order to avoid delays that occur due to the need for terminal cleaning.

b) Regarding control at discharge via telemedicine, it is suggested that it is carried out by a neurologist in a teleworking modality, in order to avoid unnecessary transfers of professionals, with the consequent exposure to the risk of contagion. It is suggested to assign a professional to do teleneurology for a certain period and avoid attending the hospital for at least 7 to 14 days.

c) The existence or not of an electronic medical record should not be a limitation for patient care by telemedicine. Alternatives should be sought to register the information.

At all times, it is recommended to follow the general prevention recommendations of COVID-19; social distancing, the reduction of trips and transfers and the use of personal protection measures, as well as proper hand washing.

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