



Editorial

Neurological Care During the Pandemic: a Global Challenge

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SARS-CoV-2 infection pandemic continues to grow worldwide. Many studies have been performed, focusing on understanding the pathophysiology of the infection, its pulmonary symptoms and complications and the treatment strategies. Furthermore, there is growing evidence of the neurological sequelae in the affected patients [1].

Beyond the neurological complications associated with the virus [2], the pandemic has further influenced the care of the patients with neurological diseases in various aspects. Several studies have pointed out the fear and concerns of contracting the virus among people avoiding hospitals and clinics during the pandemic, which caused significant drop in admissions and delayed seeking medical care even in life-threatening and time-sensitive neurological conditions such as acute stroke, which may result in poorer outcomes [1,3]. Moreover, ongoing care of patients with chronic neurological diseases such as epilepsy,

neuromuscular disorders, multiple sclerosis (MS), headaches, Parkinson's disease and dementia have been severely impacted by the social distancing protocols and the shutdown imposed by many countries [4].

From neurologists' perspective, patients with neurological diseases are considered high risk to contract the SARS-CoV-2 infection. Furthermore, presence of other comorbidities, such as cardiovascular risk factors in stroke patients, swallowing or respiratory muscle weakness in patients with neuromuscular disorders, neuropathies or myopathies, and medication induced immune deficiency in patients with MS and neuromuscular disorders may prone this group of patients to severe infection manifestations [1,5,6]. As a result, risk of infection should be considered as a crucial aspect in planning the treatment strategies.

From the patients' perspective, fear of getting infected with the virus resulting in avoiding the hospital and clinics, cancellation of outpatient appointments, delays in seeking medical care and also discontinuing medications because of fear, particularly in patients on immune-suppressants, are crucial challenges [1,4].

Given such continuing challenges, various strategies have been suggested for the ongoing care of patients with neurological disorders. Adoption of telemedicine for outpatient consultations and follow up visits, remote triaging, working across subspecialties and separation of suspicious or infected patients from non-infected ones in the emergency departments are among the proposed strategies [4,7].

Patients with chronic neurological disorders in general and those who are immunocompromised in particular need self-isolation and protections. However, social distancing could be rather harmful than helpful both mentally and physically on such patients particularly in those who need physical therapy and mobilization [4]. In the case of MS, transitioning to telemedicine for care might be helpful except in situations that intravenous transfusions are required or potential relapse investigations are needed [4].

Patients with neuromuscular disorders, neuropathies and

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myopathies who have respiratory or bulbar muscle weakness and are on immunosuppressive therapies are at higher risk of contracting the infection and also experiencing severe manifestations of the infection [8]. This group of patients should be advised to rigorously adhere to public health measures such as strict social distancing and regular handwashing. They should be reassured to continue their medication regimens and any changes to their regimen and dosages of the medications should only be made by the treating physicians. In patients who require interventions such as non-invasive ventilation or positive airway pressure, regular cleaning of the personal breathing equipment is essential [4,5,8,9].

In patients with epilepsy, it should be emphasized that viral infections are known to lower the threshold for seizures and potentially facilitate epileptogenesis, accordingly it has been shown that previous diagnosis of epilepsy may be a potential risk factor for SARS-CoV-2 -associated seizure and status epilepticus [1]. These patients should continue utilizing anti-epileptic drugs and the use of telemedicine may be the key for follow up, counseling and guidance [4].

Patients with Parkinson's disease and dementia should be considered vulnerable during the pandemic given older age, cognitive impairment and also possibilities of respiratory dysfunction and bulbar symptoms. In Parkinson's disease patients, telemedicine, tele-exercise and tele-physiotherapy are recommended [4]. Patients with dementia who are living in a group or assisted living environments, particularly those in nursing homes or long-term care facilities, are vulnerable to infection outbreak in their facilities [4]. Close monitoring of such patients for signs and symptoms of infection is required.

In patients with Migraine or other chronic headaches, the goal is to keep people at home with the appropriate treatment provided via telemedicine. Tele-consultation for worsening or new onset headaches should include a red-flag checklist for secondary headaches evaluation and any need for admission [5].

In the case of a neurological emergencies, it is advised to separate the patients with neurological illnesses from non-neurological patients, given their higher risk of contracting the infection posed to their health condition [4]. In acute stroke, clinical assessments and interventions have their own unique challenges including maintaining timely and safe care and promoting the best chance for recovery; at the same time preventing transmission of the infection to the health care personnel, particularly if endovascular treatment is indicated. In such patients, telemedicine should be considered to determine the eligibility and administration of intravenous thrombolysis. In those who require endovascular treatment, separate neuro-angiography suites should be considered for negative and suspected/confirmed infected patients if feasible and in all procedures, potential exposure of the staff to the infection should be minimized utilizing the CDC-recommended protocols. [10,11] Furthermore, increasing public awareness about stroke symptom recognition and the emphasizing the essence of time in this setting is essential [11,17].

Conflict of Interest

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