



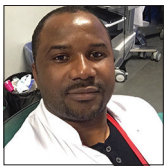
Letter to the Editor

Impact of the novel coronavirus disease (COVID-19) outbreak on the neurosurgery department in Chad

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The coronavirus disease 2019 (COVID-19) outbreak, which started in the Hubei Province of China in December 2019, has now spread to all continents, affecting 177 countries in March 27, 2020.^[1] While the novel coronavirus epidemic has damaged many of the solid health-care systems worldwide, the disease is now spreading to far more fragile systems, such as in Africa.^[2]

In Chad, the first known contagion from SARS-CoV-2, causing COVID-19, was reported on April 1, 2020, which was an imported case concerning a man coming from the north part of Africa. Quickly, he was under quarantine. Up to date, the government report officially 1361 cases confirmed, 1138 total recovered and 93 deaths which represent 6.83%. To date only 130 patients remain under medical treatment.

The repartition of cases on the national territory is heterogeneous. To date, 17 provinces on a total of 23 are concerned.

Chad, being a hot country with a mean of 40°C at this period, the relative slow contamination would be due to the heat as reported in other part of the world: a 1°C increase in temperature was associated with 3.08% (95% CI: 1.53%, 4.63%) reduction in daily new cases and 1.19% (95% CI: 0.44%, 1.95%) reduction in daily new deaths.^[3]

Furthermore, the population is regularly subjected to parasitic and viral pathologies such as malaria, and seasonal influenza, which would have induced a strong immune response to respond to the infection of COVID-19.

Given the poor resources of Chad's health systems, the coronavirus disease outbreak is challenging the government, rendering the country unable to quickly scale up an epidemic response.

However, the strategy adopted by the government was the earlier closing of borders on March 19 before the first case was declared, the imposition of the curfew in the regions concerned by the disease, social distancing, washing hands often, and systematic use of a cloth mask covering the mouth and nose.

The Renaissance University Hospital of N'djamena is a larger hospital, with a department of neurosurgery. It is a modern standard hospital which provides high-level health care to

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patients. To take care of patients infected by the COVID-19 and other patients separately, the emergency department and the intensive care unit have been divided into two noncommunicating areas.

During the first semester of 2019, a total of 10,662 consultations had been reported; the neurosurgical cases were 837 patients, which represented 7.85%. The operated cases for this period were 60 patients. At the same period, while the coronavirus was running, the number of total consultations and neurosurgical cases increased consequently. From January to June 2020, the consultations reported a total of 7738 patients, and neurosurgical consultations were 462. The operated cases were for this period 94 patients. A total reduction of 27.42% for consultations was reported. The augmentation of patients which were operated is mainly due to a concomitant military battle in March 2020, due to the presence of Boko Haram, a terrorist organization at the Chad-Lake region in the middle part of the country.

The department of neurosurgery at the university Renaissance Hospital is the only one in our country, with three neurosurgeons for 15 million people. There is currently not a neurosurgical residency training program in Chad. The number of consultations has been reduced from 20 patients to 10 patients per day per doctor to support the influx of patients coming for COVID-19 reasons.

This reduction is due to the lack of protective masks and personal protective equipment in the hospital, and avoiding the risk of high exposure of doctors as well as patients. Some patients prefer to wait until the end of the pandemic before being treated for subacute or chronic neurosurgical diseases because they are frightened of acquiring COVID-19.

Unless they had an extreme neurosurgical emergency, scheduled patients were postponed to a later date after the end of the pandemic. Two infected patients were operated on under maximal protective conditions: one for evacuation

of a spontaneous intraparenchymal hematoma and another for an external ventricular derivation following an acute postinfectious hydrocephalus.

Six months after the first case of coronavirus in Chad, new cases and new deaths due to infection from the coronavirus have not significantly increased as seen in other parts of the world. The fight continues for the total reduction of cases of coronavirus in Chad.

Declaration of patient consent

Patient's consent not required as there are no patients in this study.

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Conflicts of interest

There are no conflicts of interest.

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