

## **COVID-19: An ISN Fellow Congolese Experience**

In the Democratic Republic of Congo (DRC), the first positive COVID case was declared on March 10, 2020 by the National Biomedical Research Institute (INRB). It was an imported COVID. The first case of local contamination was established on March 17, 2020 and since, the health emergency state was declared on March 24, 2020. On April 3, 2020, the number of cases was 134 with 13 deaths (1). The number of cases is probably greatly underestimated due to the existence of a single diagnostic center across the country. Results report take up to 72 hours after collection.

Kinshasa, capital of DRC declared COVID-19 pandemic epicenter, has around 13.2 million inhabitants and experts estimates on the spot in Kinshasa agree on the convincing hypothesis of a 5% contamination rate of the population, with a mortality rate of 10% (2). This projection, which estimates around 75,000 deaths in Kinshasa alone, reveals that care capacities are insufficient in Kinshasa. Indeed, until the start of the pandemic, DRC had only around sixty respirators, an insufficient number for a population of around 88.8 million.

Beyond health infrastructure deficiency, application of barrier measures and especially containment as applied in other countries in the world is a big issue. Common Congolese people still do not believe in COVID-19 existence. People emit either mystico-religious ideas of divine punishment or think of a state begging strategy to receive funding from international organizations and governments; all reflecting not only the socio-cultural context but also the population low level of education. Further, success of a possible confinement to reduce the virus spread is said to be an illusion due to the low income of Congolese people and difficulties to access water, electricity and information.

Our experience with COVID shows that respiratory degradation remains the most serious and lethal complication to date. The combination of chloroquine and azithromycine was used for the treatment of symptomatic COVID. For the patients in our hospital, 10 in total, three were intubated due to respiratory insufficiency; two present a renal insufficiency and one patient is dialyzed.

### **Kidney failure and COVID**

Cases of acute renal failure associated with COVID have been reported in the Chinese cohorts. Currently out of the 10 COVID patients in our hospital, two have developed organic renal failure. These two patients are aged (72 years and 82 years) and have at least one comorbidity. Both patients are hypertensive and diabetic. The first patient with pre-existing chronic kidney disease is dialyzed (acute hemodialysis) for metabolic acidosis.

### Traditional medicine in the context of COVID

Within the Nephrology Congolese Society (SOCONEPH) there is a growing fear caused by the occurrence of several cases of non-COVID acute renal failure during this period. Indeed, since the appearance of COVID and in absence of a well-coded treatment, many people resort to traditional plants as a preventive and / or curative measure in face of any respiratory and / or febrile symptoms. An important intake of traditional plants treating malaria is reported by analogy to the fact that the scientific world recognizes a therapeutic value of chloroquine against COVID. Many of these traditional plants have been described associated with renal toxicity (3). The death of three children was reported in Kinshasa after the purge by “Kongo Bololo”, scientific name “Vernonia Amygdalina”, to prevent from corona virus (4).

### Hemodialysis and COVID

The Congolese nephrology society was inspired by ERA EDTA recommendations on the care of COVID patients in hemodialysis to develop recommendations adapted to local realities (5). Some of these recommendations remain difficult to apply, such as the ousting of public transport for hemodialysis patients. In Kinshasa, the COVID-19 pandemic epicenter, there are nine hemodialysis centers and currently we have a COVID suspect patient in the context of fever, cough and dyspnea. The suspicion follows a rapid diagnostic test for COVID returned positive for Ig M. A confirmation test is in progress at the National Biomedical Research Institute. In practical terms, we have revised the dialysis dose of the patients and according to their tolerance, we have reduced the number of dialysis sessions for some of them in order to minimize the number of dialysis patients per shift and per day. Usually we take up to 9 patients in a large ward, down to about 5 per dialysis shift.

### Transplantation and COVID

At present, we do not have kidney transplant patients with COVID-19. Since the confinement of Kinshasa, experts report many problems in the supply of immunosuppressive drugs.

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