Fondation Congolaise pour la Recherche Médicale





Subject: Brief presentation of the sero-epidemiological investigation mission on SARS-COV2 (COVID-19) infection in Bomassa, Sangha department

Commitment of the "Fondation Congolaise pour la Recherche Médicale" (FCRM) alongside the government in the fight against the covid-19 pandemic

As part of the "sero-epidemiological investigation of infections by SARS-COV 2 (COVID-19)" in the Republic of Congo, a team from the Fondation Congolaise pour la Recherche Médicale (FCRM) in collaboration with Wildlife Conservation Society (WCS) went from May 19 to June 2, 2021 on a mission to collect samples from residents of Bomassa (location on the map). Bomassa is located in the heart of the equatorial forest, in the Nouabalé-Ndoki forest massif in the Sangha department, in north of the Republic of Congo, 972 km from Brazzaville by car, on the borders with Cameroon and the Central African Republic.



This collection of samples was a logical continuation of the pilot phase of the study conducted by FCRM in Brazzaville from April to August 2020; study which had made it

possible to demonstrate in several Brazzaville residents the presence of antibodies against SARS-COV2, without the presence of the virus, which testified to a past viral infection; this study allows to follow the progression of herd immunity against this virus.

Thus, to better determine the cumulative immunity of the population and a better understanding of the evolution of the pandemic at the national level, it was important to continue the investigations in people not showing any of the symptoms of COVID-19 and living so in both urban and rural areas, and particularly in areas of the Congo which had a low incidence of the virus. It is in this context that this survey was carried out in Bomassa, where indigenous peoples and Bantu live together.

1. Important points to consider

1.1. Collection of samples:

Overall, as shown in the table above, 608 samples (304 oropharyngeal and 304 blood samples) were collected from 304 Aboriginal and Bantu subjects (194 males and 110 females) who participated in the study. All these samples were collected in the Bomassa Health Center after sensitization of the community and consent of the participants.

1.2. Malaria case detection

The prevalence of malaria cases with rapid diagnostic tests (RDTs) was 18.42%. In fact, out of 304 subjects recruited, 56 were diagnosed positive for malaria by the RDTs. The prevalence by microscopy will be communicated later.

1.3. SARS-COV2 detection

The detection of SARS-COV2 carried out by conventional RT-PCR of the 304 oropharyngeal samples revealed 15 (5%) of positive SARS-COV-2 samples (9 men and 6 women).

1.4. Table of the preliminary results

Localité	Nature de l'échantillon	Qté	Hommes	Femmes	Résultats TDR Paludisme		Résultats RT- PCR classique		Résultats TDR Covid-19 (Ag-RDT)	
					TDR (+)	TDR (-)	PCR (+)	PCR (-)	TDR (+)	TDR (-)
Bomassa	Sanguin	304	194 (63,8%)	110 (36,2%)	56 (18,4%)	248 (81,6%)	-	-	-	-
	Oropharyngé	304	194	110	-	-	15 (4,9%)	289 (95,1%)	-	304 (100%)
Total		608	388	220	56	249	15	289	-	304

2. In Perspective

- The samples are currently analyzed in Brazzaville at the Center for Research on Infectious Diseases – Christophe Mérieux (CERMI) of FCRM. Serology using the ELISA technique, the standard method for detecting antibodies (IgG and IgM), will make it possible to estimate the proportion of the population with antibodies against SARS-COV2. In addition, the SARS-COV2 strains will be sequenced and this important information will make it possible to know the variants currently circulating in Bomassa and compare them with those circulating in Brazzaville and Pointe-Noire.
- Microscopic examinations will determine the prevalence of *Plasmodium* infections (malaria parasite), as well as SARS-COV2 / *Plasmodium* co-infection in SARS-COV2 positive subjects.
- The next mission scheduled in 3 months will provide the opportunity to follow the progress of immunological responses in the participants, according to the protocol of the survey.