Category: Perspective

Title: COVID-19 in Africa: What else?

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Perspective:

The factors which may explain the dampened course of COVID-19 in Africa, have been recent recently discussed in *Science*, from genetic characteristics to immunological factors and even microbiote (1). However, a major issue is missing. Indeed, after the first Chinese publications about antiviral effects of chloroquine (CQ) and its derivatives against SARS-COV2 (2,3) and a preliminary trial in France (4), many African countries have adopted CQ or hydroxychloroquine (HCQ) with or without azithromycin (AZ) to treat presumptive or confirmed COVID-19 cases (5,6). And this, despite the WHO position (7) and published studies claiming that this regimen would not be effective (8,9). More evidence came with the demonstration of a synergistic effect of in vitro HCQ-AZ combination on SARS-CoV-2 at concentrations compatible with that obtained in the human lung (10) and from observational studies with thousands of treated cases (11). In addition, both HCQ and AZ are immunomodulators, which may prevent the "cytokine storm" of COVID 19 (12, 13). In the context of pulmonary embolism associated with covid, it is important to highlight that i*n vitro* and animal models have demonstrated that HCQ had several antithrombotic effects (14, 15). Also, several clinical studies have underlined the interest of HCQ for thrombosis prevention in antiphospholipid syndrome of interest in the context of COVID-19 induces caogulopathy (16, 17, 18). Finally, AZ-HCQ has been associated with a reduction in viral shedding, with potential public health effects by reducing the duration of contagiousness (4,11).

The use of HCQ-AZ remains controversial and has resulted in political issues and academic discord (19-23). Randomized controlled trial (RCT) are not relevant for urgent health issues such as emerging infectious disease outbreaks (24). While in many African countries a pragmatic safely use of CQ or HCQ with or without AZ has prevailed, Western countries are still awaiting the results of clinical trials to define their strategy, worrying about hypothetical side effects of HCQ-AZ that have been used for decades, or are favoring other treatments (with no

62 demonstration of efficacy) or the standard care only, which may be limited when people are asked
63 to stay home.
64 We, being Professors of Infectious diseases or microbiology, MD, PhD, coauthors from Algeria,
65 Morocco, Senegal, Niger, Mali, Mauritania, Gabon, and France (with teams working in Africa),
66 all involved in the COVID 19 pandemic in Africa, have attempt to submit a letter to Science in
67 reply to the article of Mbow *et al*. (1), to comment their article and discuss the potential role of the
68 large use of chloroquine derivative with or without azithromycin in many African countries,
69 including ours. The paper was rejected the day after submission. We are unsure if the rejection
70 was as stated because its " scope and focus make it more appropriate for a more specialized
71 journal", or in relation with the political position of Science (19-23), any conflict of interest of the
72 journal editors, or any other reason. However, we think that to understand and comment the
73 situation in Africa, it deserves credit to hear African scientists and doctors. To date, the countries
74 with the highest mortality from COVID-19 include the countries that have demonized CQ, HCQ
75 or HCQ-AZ the most, i.e. Western Europe and part of the United States (5, 6). Although the link
76 between the large cost-effective use of CQ, HCQ or HCQ-AZ and the evolution of the COVID-19
77 pandemic in Africa has not been demonstrated, it deserves to be discussed.
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79 **Conflict of Interest and Financial Disclosures:**

80 No authors have financial or non-financial actual or potential conflicts of interest

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