

Coronavirus among Acute Diseases Patients in Africa

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ABSTRACT

The world has experienced several epidemics posing serious threat to global public health, including the 2002 severe acute respiratory syndrome (SARS) epidemic that caused 800 deaths out of about 8 000 case. health authorities across the world have been trying to contain the spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) via public awareness and contact tracing—ie, by identifying and isolating individuals at high risk of being positive, the present work is case report studying the relation between COVID-19 among acute diseases includes malaria parasite signs and symptoms with COVID-19 and its effects.

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Received: August 18, 2021; **Accepted:** August 23, 2021; **Published:** August 28, 2021

Keywords: COVID-19, Malaria Parasite

Introduction

African countries with the most fragile health and environmental systems that render them vulnerable to the rapid spread of infectious diseases, continue to surprisingly report the lowest number of COVID-19 cases and mortality rates as of November 2020. Several supposition have been put forward to justify this open query; factors such as climate conditions, young African population's age (median 19.5 years), poor diagnostic tests and medical services, immunity due to back malaria infection and the use of antimalarial drugs have been reported. Statistical studies have pointed out that hot weather may relatively lower the rapidness of the virus dissemination but doesn't cease it. The central and western parts of the continent, which extend from Sudan to Mauritania at the extreme western border of Africa, are least affected by the devastating pandemic. Meanwhile, this belt is known for being heavily struck by malaria, a disease of the high burden caused by four Plasmodium species i.e., vivax, malariae, ovale, and lastly falciparum the main culprit of the majority of the death cases in sub-Saharan Africa [1-10]. The possible COVID-19 immuno-protective effect in response to past malaria infection has been repeatedly discussed in recent literature. This relation has been supported by several observations, firstly both could be cured by antimalarial drugs, malaria becomes severe in patients with "A" blood group, while "O" blood carriers are protected, the same ABO blood group system's susceptibility was found to apply to COVID-19 patients, at severe stages, both are associated with coagulopathy, and lastly the sharing of certain immunodominant regions between the two microbes. Though antimalarial drugs like chloroquine, hydroxychloroquine, and artemisinin are used by some countries' health authorities for the treatment of COVID-19; chloroquine and hydroxychloroquine have been removed a few years ago from the malaria protocol

due to detected Plasmodium resistance to the drugs [11-18]. Many West African countries adopted chloroquine for many years as one of the most common drugs for the treatment of malaria, among which Uganda, Burkina Faso, Mali and Guinea-Bissau. Interestingly, these countries remained to report the least number of COVID-19 incidences.

The Malaria Data Were Attained from WHO 2018 Malaria Country Report

Malaria is a parasitic infection, caused by parasites of the genus Plasmodium and transmitted by Anopheles mosquitoes, that leads to an acute life-threatening disease and poses a notable global health threat. According to the World Health Organization (WHO) data of 2018, about 228 million cases of malaria and 405,000 deaths were reported worldwide, with Africa displaying the greatest number of cases and the highest mortality [19].

While malaria and COVID-19 can have similar presentation, common symptoms they share include but not limited to fever, breathing difficulties, tiredness and acute onset headache, which may lead to misdiagnosis of malaria for COVID-19 and vice versa, particularly when clinician relies mainly on symptoms [20].

The Low Prevalence of COVID-19 in Malaria-Endemic Countries With more than 172 000 deaths, Africa accounts for over 4% of the 4.2 million COVID-19 related deaths recorded globally to date. The spread of COVID-19 in Africa is considered less than expected [21].

Methods

In the recent SARS-CoV-2 pandemic, public health experts have emphasized testing, tracking infected people, and tracing their contacts as an effective strategy to reduce the spread of the virus. Some tests detect the infection directly by detecting the viral

RNA and other tests detect the infection indirectly by detecting the host antibodies.

Sample Collection

Two types of sample specimens are being primarily used for the diagnosis of COVID-19. Respiratory specimens are used for direct detection of virus and serum samples are used for identification of antiviral antibodies. Direct detection of viral RNA in waste water samples is also being used for community surveillance. Similarly, saliva and stool samples have also been explored and require less challenging sampling procedures than respiratory specimens. The respiratory specimens are collected most frequently from the upper respiratory tract [22-25].

Recommendations

Remember that your personal protection is the priority. Plan ahead as it takes time to apply all the barrier precautions. Practice appropriate hand hygiene before and after all procedures. After removing protective equipment, avoid touching hair or face before washing hands. Wear a mask, gloves and wash your hands appropriately.

Conclusion

In conclusion, COVID-19 has a variable prevalence among countries which is lower than expected in malaria-endemic regions. malaria patients develop anti-GPI antibodies which could identify SARS-CoV-2 glycoproteins and consequently play a protective role against COVID-19.

COVID-19 patients are prone to depleted levels of antioxidant substances due to their increase utilization in counterbalancing the negative effect of free radicals. Furthermore, COVID-19 infection with other comorbidities, such as malaria, hypertension and diabetes, are at higher risk of developing oxidative stress.

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