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Letter to the Editor

Response to Abdelrahman M et al commentary on “Parasites Protect from Severe COVID-19. Myth or Reality?”


Dear Editor,

In a recent correspondence, Abdelrahman et al. (2022) described the protective effect of parasites on COVID-19 as a myth rather than a reality (Bamorovat et al., 2021; Wolday et al., 2021a). In addition, they indicated that a study (Abdoli, 2020) has found that parasitic infections, like helminths, increase the risk of COVID-19 severity.

Concerning our study (Wolday et al., 2021a), they noted that intestinal parasitic co-infection was attributed to having less COVID-19 complications. This is an incorrect interpretation because we in fact demonstrated that less COVID-19 complications were attributed to having pre-existing co-infections with parasites and not vice versa. They incorrectly suggested that the probability of inclusion is associated with COVID-19 exposure and outcome (proportion of parasite co-infection). This is not the case because in our study, we defined exposure as having pre-existing parasite co-infection and outcome as the proportion of developing severe COVID-19. Moreover, admission bias in our cohort was minimal owing to the unique situation of our setting where all COVID-19 cases were followed up, either quarantined in designated isolation hospitals or admitted to the intensive care unit (Abreha et al., 2021; Wolday et al., 2021a).

Surprisingly, Abdelrahman et al. (2022) also incorrectly construed the publication by Abdoli (2020). A more careful review of this study reveals a hypothesis that helminths may increase severity of COVID-19 and also may suppress the immune response to SARS-CoV-2 vaccines but evidence was not provided. In contrast, our findings provide significant correlative evidence embedded in a sound immunologic theory. Indeed, Bradbury et al. (2020) were the first to propose that helminths may negatively impact the pathogenesis of COVID-19. An alternative hypothesis was then suggested by Hayes et al. (2020) that co-infection with helminths may indeed have a mitigating effect against severe COVID-19. Given that parasites have complex inter-relationships with a host and that different species and even different stages of parasite life cycle exerting differential immune responses in the host, we and others argued that parasitic co-infections could be either beneficial or detrimental to COVID-19 severity or their effects on SARS-CoV-2 vaccines (Gutman et al., 2020; Wolday et al., 2021b, Wolday et al., 2021c).

We suggest that before concluding that co-infection with parasitic infection in reducing COVID-19 severity as being a myth, it is imperative to provide evidence. Finally, we agree with Abdelrahman et al. (2022) that more evidence is required to ascertain in de-

tail the causal relationship between parasitic infection and COVID-19 severity.

Declarations Conflict of interest

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