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Abstract

Introduction

Mediators of immunity and inflammation are playing a crucial role in COVID-19 pathogenesis and complications as demonstrated by several genetic and clinical studies. Moreover, a weak, irregular, or inhibited early interferon response to SARS CoV-2 infection was shown to trigger an exaggerated inflammatory response leading to the COVID-19 associated mortality. Thus, repurposing of drugs that possess anti-inflammatory and/or immune-modulatory effects for COVID-19 is considered a rational approach.

Areas covered

We present a concise analysis and interpretations of selected studies that correlated COVID-19 with dysregulated interferon and inflammatory responses while reflecting on our academic and real-life experience using non-steroidal anti-inflammatory drugs, nitazoxanide and azithromycin for management of COVID-19. Moreover, we interpret the recent results that suggested a potential survival benefit of low dose aspirin and colchicine when used for COVID-19.

Expert opinion

Nitazoxanide/azithromycin combination has been first hypothesized by the author and practiced by him and several researchers to benefit COVID-19 patients due to a potential ability to augment the natural interferon response as well as their positive immunomodulatory effects on several cytokines. Furthermore, NSAIDs, that were unfortunately almost globally avoided early in the COVID-19 era and still avoided in many developing ones or at best of second choice in the developed ones, have been early postulated and clinically practiced by the author to prevent or ameliorate COVID-19 complications and mortality due to their ability to prevent, constrain or reverse COVID-19 associated dysregulated immune and hyper-inflammatory responses through mitigating the formation of several inflammatory cytokines and pathways including the interleukin-6 amplifier and its NF-kB component, as well as modulation of a described monocytic immunological dysrhythmia, which is also known to trigger the COVID-19 cytokine storm. Finally, we repeat our previous call to adopt our observational study that used these drugs in sufficiently powered double blind randomized clinical trials as COVID-19 potential safe and economic cure might be available and unfortunately repeatedly ignored for one year.

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