



Letter to the Editor

The arguments of Aspirin for COVID-19 complications

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Dear Editor

Recently, a research team from the School of Medicine at the University of Maryland reported that the usage of aspirin was associated with decreased mechanical ventilation, ICU admission, reduced lung injury, and in-hospital mortality in hospitalized patients with COVID-19. Four hundred and twelve (412) patients participated in this study within three months from March to July. Patients were given a low dosage of aspirin (75-81 mg/day), only 44% of patients required to have ventilator and 43% of patients admitted to ICU, also 47% of patients decreased the death rate after COVID-19 infection [1]. However, these investigations weren't a randomized, double-blind, placebo-controlled trial [2].

Up to the present, an important complication of COVID-19 was increased risk of blood clotting for the patients. This was an

inflammatory response of at least 30% or 70% of patients in ICU for the lining of blood vessels in the cardiovascular and alveoli in the lungs [3]. Aspirin was an anti-platelet agent which inhibited the formation of platelet by deactivating the activity of cyclooxygenase (COX) and making the irreversible reaction of acetylate serine 530 to generate the thromboxane A₂, called "antithrombotic effect". It also prohibited the virus replication by suppressing prostaglandin E₂ (PGE₂) in macrophages and up-regulated the production of type I interferon [4].

Indeed, there was no evidence to support aspirin for the prevention of virus (SARS-CoV-2). Aspirin had a life-threatening condition for children or teenagers because it enhanced the possibility of getting Reye's syndrome. Meanwhile, aspirin was not suitable for the treatment of DIC and patients with a thromboembolic situation as it would further increase the seriousness of blood bleeding lead to another side effect, for example, heart attack [5]. Currently, Leonard-Lorant I et al. suggested that a study of Troponin and D-Dimer thresholds to identify patients who should use prophylactic doses of aspirin with or without anticoagulation that confirm the non-harmful effect of aspirin on COVID-19 [6].

The above information demonstrates that aspirin is one of the potential candidates for COVID-19 complications. It possesses anti-inflammatory, anti-viral replication, and anti-coagulation of blood activities. However, much

more works need to be done including continuous safety assessments of aspirin against COVID-19. Nowadays, other treatments are being investigated in the recovery stage of COVID-19 such as azithromycin, tocilizumab, convalescent plasma, and REGN-CoV-2.

Author contributions

All authors contributed to the concept, acquisition and analysis of data, drafting of the manuscript, and critical revision of the manuscript for important intellectual content. All authors had full access to the data, contributed to the study, approved the final version for publication, and take responsibility for its accuracy and integrity.

Conflicts of interest

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