Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Letter to the editor

Comment on “Pre-hospital antiplatelet medication use on COVID-19 disease severity”

To the Editor,—The article by Pan et al.[1] entitled "Pre-hospital antiplatelet medication use on COVID-19 disease severity" has been read with great interest.[1] I appreciate the article’s brevity and applaud the authors’ exemplary work. The authors have succinctly written several scenarios. Hospitalized patients exhibited no correlation between pre-hospital antiplatelet agents and the severity of COVID-19 disease. Based on these findings, we have not found sufficient evidence to recommend routine antiplatelet use as part of COVID-19 treatment. A growing body of evidence shows clinically significant increases in non-pulmonary thrombotic events in COVID-19 patients, such as an increased risk of stroke and acute coronary syndrome. Recognizing the established role of antiplatelet agents in the critical management of both conditions, future studies could examine whether antiplatelet drugs limit thrombo-embolic consequences in neurologic or coronary settings. However, adding a few more points to the conclusion seemed worthwhile to strengthen it.

Firstly, significant concerns arise regarding the power of the study, which is reduced due to less sample size, influencing the study’s validity. For example, a 2021 study by Santoro et al.[2] included 7824 consecutive patients with COVID-19 from a multicenter international prospective database. A scientific board developed the methodology from Italy, Spain, Ecuador, and Germany, which boosted the credibility of their results.[2] secondly, the lack of information regarding the baseline clinical characteristics of the overall COVID-19 population and patients treated with and without antiplatelet therapy raises selection bias and matching concerns. Clinical features at admission, such as hyposmia/anosmia, dysgeusia, and diarrhea, as well as laboratory data, such as procalcitonin level, admission d-dimer levels, admission creatinine levels, admission leucocyte count, admission lymphocytes, and admission platelets, were described in detail in order to eliminate particular effect modifiers.[2] Few studies have demonstrated positive clinical outcomes in COVID-19 patients treated with antiplatelet therapy alone or in combination with an anticoagulant. In a prospective observational study involving critically ill COVID-19 patients, ranucci et al.[4] reported a combination of an enhanced prophylactic dose of heparin, clopidogrel, and antithrombin correction returned viscoelastic coagulation test parameters to essentially normal levels (129). A proof-of-concept, case-control, phase ii study involving five patients with COVID-19 and severe respiratory failure treated with tirofiban, aspirin, clopidogrel, and fondaparinux reported no adverse events.[3] fourth, studies in non-covid-19 populations have found an increased risk of bleeding in patients taking aspirin for primary cardiovascular disease prevention. Aspirin users were 1.38 times more likely to have a significant hemorrhagic complication in a randomized controlled trial and 1.43 times more likely in a systematic review.[4]

Additionally, the failure of heparin to inhibit or reduce coagulation in COVID-19 patients may be due to heparin resistance in some patients with the aggravated disease. Antithrombin III deficiency, high fibrinogen, and D-dimer levels are common in heparin-resistant patients.[5] The influence of heparin resistance must be evaluated in COVID-19-infected participants to determine whether this impacts only a few isolated incidents or is a crucial factor in COVID-19-induced coagulopathy.

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None.

Declaration of Competing Interest

None.

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