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

Direct oral anticoagulants (DOAC) for patients with atrial fibrillation during the COVID-19 pandemic

Anticoagulantes orales de acción directa (ACOD) en pacientes con fibrilación auricular durante la pandemia de COVID-19

Dear Editor,

We compliment Gómez et al.[1] for reporting their large retrospective, multicenter, nationwide study that investigated the risk factors associated with mortality and poor prognosis in patients with coronavirus disease 2019 (COVID-19) and concurrent atrial fibrillation. In the study, it has been found in the multivariable analysis that the use of direct oral anticoagulants (DOACs) in patients with COVID-19 and atrial fibrillation was associated with significantly reduced risk of mortality (odds ratio = 0.597; 95% confidence interval 0.402–0.888). The findings of this study resonate with the findings of a meta-analysis[2] which determined the effects of the use of DOACs on morbidity and mortality in patients with COVID-19, and reported that the use of DOACs was significantly associated with a reduced risk of severe or fatal COVID-19 (odds ratio = 0.50; 95% confidence interval 0.33–0.76).

We believe there are implications from the findings where the authors did not discuss in their article.[1] Firstly, the mortality benefits with DOACs suggest their potential antiviral activity against SARS-CoV-2, the causative pathogen of COVID-19. DOACs, particularly the direct FXa inhibitors, may prevent coronavirus entry into human cells by inhibiting the cleavage of the spike protein of SARS-CoV-2 into the S1 and S2 subunits, which can serve to facilitate the fusion of the virus with the host cell membrane.[3] Secondly, the association between the use of DOACs and reduced risk of mortality may be attributable to their anti-inflammatory activities. Previously, a post hoc analysis of the X-VeRT trial[4] reported that the use of rivaroxaban led to a significant reduction in the levels of D-dimer and interleukin-6 in patients with atrial fibrillation, where both of which have been associated with COVID-19 mortality. These results indicate that DOACs may also inhibit the excessive immune response and cytokine storm involved in the pathophysiology of COVID-19. Thirdly, the positive findings should encourage more widespread prescribing of DOACs for patients with atrial fibrillation who are indicated for long-term anticoagulation during the COVID-19 pandemic. Due to COVID-19 related movement restrictions, it has been previously suggested that patients who are newly diagnosed with atrial fibrillation and require anticoagulant treatment as well as patients with atrial fibrillation receiving vitamin K antagonists, should be prescribed/switched to DOACs during the COVID-19 pandemic.[5] This is owing to the ease of monitoring with the use of DOACs compared to vitamin K antagonists. The findings of the study thus provide another rationale to prescribe DOACs for patients with atrial fibrillation who require anticoagulation during the COVID-19 pandemic, in order to reduce the risk of mortality, shall they acquire COVID-19. In fact, the presence of atrial fibrillation significantly increases the risk of serious complications and death from COVID-19.

Taken together, we urge clinicians to take the findings of this study[1] into consideration when deciding anticoagulant treatment in patients with atrial fibrillation during the COVID-19 pandemic.

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Conflict of interest

All authors declare that they have no potential conflicts of interest that might be relevant to the contents of this article.

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