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 Editors

The role of ACEIs/ARBs in COVID-19: Friend or foe?

The Coronavirus Disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is the most pressing public health challenge at present globally. Recent studies found Angiotensin converting enzyme 2 (ACE2), a homologue of ACE, mediates the the fusion of SARS-CoV-2 and host cells [1]. Therefore, up-regulation of ACE2 may increase the susceptibility of the disease. However, there are evidences implying that increased expression of ACE2 may benefit the patient via inhibiting inflammation [2], indicating that the dual role of ACE2. As a common drug in clinic, ACEIs/ARBs increase the expression of ACE2 [3], thus it may be a friend or a foe in the COVID-19 management.

Most recently a retrospective study found that among COVID-19 patients with hypertension, inpatient use of ACEIs/ARBs was associated with lower risk of all-cause mortality compared with non-users [4], implying that ACEIs/ARBs is a friend of COVID-19. However, there is still insufficient evidence demonstrating this is the case due to the potential residual confounders.

Standing at the crossroads, we need further investigations to delineate the relationship between ACEIs/ARBs and COVID-19: (1) To simulate the disease state of COVID-19, animal disease models are needed to be constructed to elucidate the pathogenicity and biological effects of 2019-nCoV and its connection with ACEIs/ARBs treatment. (2) Molecular mechanism studies are required to screen effective therapeutic schedule for COVID-19. (3) A well-designed prospective clinical research is needed on this issue. In conclusion, complex interactions among ACEIs/ARBs, ACE2 and COVID-19 patients argue for further research to distinguish ACEIs/ARBs as a friend or a foe.

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Zhe Zhou[1], Yumin Qiu[1], Jun Tao*

Department of Hypertension and Vascular Disease, The First Affiliated Hospital, Sun Yat-sen University, Guangzhou, Guangdong, China

E-mail address: taojungz123@163.com (J. Tao).

* Corresponding author.

[1] These authors contributed equally to this work.

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