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Letter to the Editor

# More clinical warning indicators should be explored for monitoring COVID-19 patients' condition



Chaojun Yang <sup>a</sup>, Jian Yang <sup>b</sup>, Jing Zhang <sup>a</sup>, Jun Yang <sup>a,\*</sup>

- a Central Laboratory, The First College of Clinical Medical Science, China Three Gorges University & Yichang Central People's Hospital, Yichang 443000, Hubei Province, China
- b Department of Cardiology, The People's Hospital of Three Gorges University/The First People's Hospital of Yichang, 443000, Hubei Province, China

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Dear Editor,

We have read a review titled "B-type natriuretic peptides for the prediction of cardiovascular events and mortality in patients living with HIV: Results from the HIV-HEART study." written by Reinsch and his colleagues [1]. This paper indicated that BNP was positive correlation with the incidence of cardiovascular events and mortality in HIV-infected patients. Hence, BNP may be induced by viral infection and could be an indicator for monitoring patients' condition after viral infection.

In December 2019, SARS-CoV-2-infected disease 2019(COVID-19) occurred in Wuhan, China [2]. However, little data are available to describe the disease pathogenesis, and no pharmacological therapies of proven efficacy yet exist now [3]. Based on our recent experts clinical experience on COVID-19, we found some early-onset COVID-19 patients were not very dangerous in the early stage, but the patient's condition may deteriorate suddenly and enter a statge of multiple organs failure caused by a storm of inflammation [4]. Meanwhile, we also observed

that high BNP was significantly associated with acute respiratory symptoms and respiratory failure, which may be an indicator of COVID-19 patient's condition deterioration. Hence, we strongly recommend more clinical warning indicators such as BNP should be explored for the early identification of COVID-19 critically ill patients, and take more effective and normative approaches to reduce the conversion from mild to severe patients at an earlier stage.

### **Declaration of competing interest**

None.

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#### References

- N. Reinsch, H. Streeck, V. Holzendorf, et al., B-type natriuretic peptides for the prediction of cardiovascular events and mortality in patients living with HIV: results from the HIV-HEART study, Int. J. Cardiol. 281 (2019) 127–132.
- [2] The Novel Coronavirus Pneumonia Emergency Response Epidemiology Team, The epidemiological characteristics of an outbreak of 2019 novel coronavirus diseases (COVID-19) in China, Chin J Epidemiol 41 (2020) 145–151.
- [3] L. Michelle, M.P.H. Holshue, M.P.H. Chas DeBolt, et al., First case of 2019 Novel coronavirus in the United States, N. Engl. J. Med. 382 (2020) 929–936.
- [4] D. Wang, B Hu, C Hu, et al., Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus-infected pneumonia in Wuhan, China, JAMA 323 (2020) 1061–1069.

<sup>\*</sup> Corresponding author.

E-mail address: yangjun@ctgu.edu.cn (J. Yang).