

REVIEW

Prevalence and impact of cardiovascular metabolic diseases on COVID-19 in China

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Abstract

Background Studies have reminded that cardiovascular metabolic comorbidities made patients more susceptible to suffer 2019 novel coronavirus (2019-nCoV) disease (COVID-19), and exacerbated the infection. The aim of this analysis is to determine the association of cardiovascular metabolic diseases with the development of COVID-19.

Methods A meta-analysis of eligible studies that summarized the prevalence of cardiovascular metabolic diseases in COVID-19 and compared the incidences of the comorbidities in ICU/severe and non-ICU/severe patients was performed. Embase and PubMed were searched for relevant studies.

Results A total of six studies with 1527 patients were included in this analysis. The proportions of hypertension, cardiocerebrovascular disease and diabetes in patients with COVID-19 were 17.1%, 16.4% and 9.7%, respectively. The incidences of hypertension, cardia-cerebrovascular diseases and diabetes were about twofolds, threefolds and twofolds, respectively, higher in ICU/severe cases than in their non-ICU/severe counterparts. At least 8.0% patients with COVID-19 suffered the acute cardiac injury. The incidence of acute cardiac injury was about 13 folds higher in ICU/severe patients compared with the non-ICU/severe patients.

Conclusion Patients with previous cardiovascular metabolic diseases may face a greater risk of developing into the severe condition and the comorbidities can also greatly affect the prognosis of the COVID-19. On the other hand, COVID-19 can.

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