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.

Medical Hypotheses 142 (2020) 109830

Contents lists available at ScienceDirect

Medical Hypotheses

journal homepage: www.elsevier.com/locate/mehy

Old medication for a novel disease?

Laboratory confirmed cases of COVID-19 are millions of people worldwide with hundreds of thousands fatalities (Johns Hopkins University). Most of these fatalities are induced by acute respiratory syndrome (ARDS) and those who survive, might suffer from long term complications of severe pulmonary inflammation. The purpose of this letter is to propose that aldosterone antagonists might improve the outcome of ARDS.

It has been proved by multiple studies on cell lines, animal model, and also human subjects that aldosterone induces collagen synthesis in different tissues [1,2], and that aldosterone antagonists (e.g. spironolactone) can inhibit collagen synthesis in different tissues including heart, muscle, kidney, and lung [3–5]. There has been a few studies done on ARDS and it has been shown that spironolactone improves the outcome in this condition as well [6].

Studies have shown that expression of ACE2 might facilitate infection by SARS-CoV-2, but it was demonstrated that aldosterone antagonists (which increase expression of ACE2) can protect against ARDS in animal models [7].

Based on the previous evidence and also pathophysiology of ARDS it seems reasonable to consider spironolcatone for improvement of ARDS outcome if started early in the course of the disease. Now that we have a surge in ARDS cases caused by COVID-19 and since there is not effective treatment or vaccine available yet, we need to decrease mortality and morbidity it seems that early initiation of aldosterone antagonist early in the course of COVID-19 might improve the outcome by decreasing fibrosis in lung tissue.

Sources of support in the form of grants

We had no source of funding and no conflict of interest.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.mehy.2020.109830.

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Dariush Jahandideh[a,*], Andisheh Taheri[b]
[a] *Yale University Affiliated Griffin Hospital, Internal Medicine Department, United States*
[b] *Shiraz University, Iran*
E-mail address: djahandideh@griffinhealth.org (D. Jahandideh).

* Corresponding author at: 130 Division St, 130 Division St, Derby, CT 06418. Griffin Hospital, Yale University affiliated hospital, Medical Education, Internal Medicine, United States.

https://doi.org/10.1016/j.mehy.2020.109830
Received 12 April 2020; Accepted 8 May 2020