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Letter to the Editor

Vigilance in selection of low-dose versus high-dose steroids in COVID-19

Respected Editor,

We read with great interest the case-series study on the efficacy of thalidomide along with short-term low-dose glucocorticoid therapy for the treatment of severe COVID-19 (Li et al., 2021). Although thalidomide, undoubtedly, with many years of history, is known to cause misery, it is also known for its multifaceted pharmacological effects such as immunomodulation, anti-inflammation, antiangiogenesis and antiviral effects. Currently, it is either used as a monotherapy in severe erythema nodosum leprosum or in combination with steroids if neuritis coexists. In the current pandemic, thalidomide has been reported to reduce the severity of many COVID-19 symptoms, such as lung lesions and exudation (Sundaresan et al., 2021).

We would like to add a few points that we felt were essential to highlight about the glucocorticoid used, namely dexamethasone. The study mentioned dexamethasone 40 mg intravenously every 12 h, which is a very high dose used in these patients. First, the term 'low-dose glucocorticoid' usually refers to treatment with ≤ 7.5 mg prednisone (10 mg prednisone is equivalent to 1.5 mg dexamethasone) (Mager et al., 2003; Buttgerit, 2002). This dose occupies less than 50% of the receptors and is used for maintenance therapy with relatively few adverse effects. Second, the timing of the dose is also significant as it has to be matched with the circadian rhythm of endogenous cortisol production. Hence it is clear that the dose used in the study represents a very high dose for the patients (Buttgerit, 2002).

Dexamethasone is a corticosteroid used in a wide range of conditions for its anti-inflammatory and immunosuppressant effects. It was tested in hospitalized patients with COVID-19 in the United Kingdom's national clinical trial RECOVERY and was found to have benefits for critically ill patients (Dexamethasone in Hospitalized Patients with Covid-19, 2021).

In September 2020, the World Health Organization issued an interim guideline on the use of dexamethasone and other corticosteroids for the treatment of COVID-19. It recommended that corticosteroids be used to treat patients with severe and critical COVID-19 and advised against the use of corticosteroids in patients with non-severe COVID-19, unless the patient is already taking this medication for another condition. The daily dose recommended was 6 mg of dexamethasone, equivalent to 160 mg of hydrocortisone, 40 mg of prednisone, or 32 mg of methylprednisolone. The recommendation was on the basis of the moderate certainty of evidence of a mortality reduction of 8.7% and 6.7% in

patients with COVID-19 who are critically or severely ill, respectively (Corticosteroids for COVID-19, 2021).

Higher incidence of psychosis with high doses of corticosteroid administration, as well as diabetes, delayed viral clearance, and avascular necrosis, have been reported (Russell et al., 2020). Hence, these patients need to be tracked regarding the long-term effects of the high-dose glucocorticoid therapy administered to them and appropriate actions taken to ensure a better quality of life for them.

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Conflict of interest

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Pugazhenthan Thangaraju*

Aravind Kumar B.

Department of Pharmacology, All India Institute of Medical Sciences,
Raipur, Chhattisgarh, India

Sajitha Venkatesan

Department of Microbiology, All India Institute of Medical Sciences,
Raipur, Chhattisgarh, India

* Corresponding author at: Department of Pharmacology, Medical
College Building, AIIMS Raipur, R. No 2220, IInd Floor, India.
E-mail address: drpugal23@gmail.com (P. Thangaraju).

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