

# An epidemic of iatrogenic Cushing's syndrome in anticipation in post-COVID era

Dear Editor,

Rampant use of steroids resulting in uncontrolled hyperglycemia and immunosuppression is the key reason behind the upsurge of diabetes and epidemic of mucormycosis in the second wave of coronavirus disease-2019 (COVID-19) in India.<sup>[1,2]</sup> Now, we should be aware of the upcoming next storm, that is, post-COVID iatrogenic Cushing's syndrome (PICS).

Even at the end of first wave of COVID-19, efficacy and safety of using glucocorticoids were not established.<sup>[3,4]</sup> Current guidelines recommend steroids in hypoxic COVID-19 patients to decrease severity and mortality.<sup>[5]</sup> The World Health Organization recommends dexamethasone up to 6 mg/day (or equivalent dosage of prednisone, methylprednisolone, hydrocortisone) for 5–10 days for hypoxic COVID-19 patients.<sup>[5]</sup> A study reveals that there is considerable variation in steroid dose, form, initiation, and stopping criteria among physicians.<sup>[6]</sup> Contrary to the existing recommendations, majority of them prefer high-dose methylprednisolone therapy and continue the same beyond 2 weeks. Prescriptions of methylprednisolone 1 g or dexamethasone 24 mg daily are being advised. In many instances, patients are being put on very high dose of intravenous steroid even more than 2 weeks till they get discharged, and further oral steroids prescribed at discharge are being continued for a prolonged period (sometimes over a month).<sup>[6,7]</sup> Inhalational corticosteroids, approved this year for mild COVID-19 cases, can also lead to PICS, if used unrestricted.<sup>[8]</sup> Although still not reported in the context of COVID-19, posaconazole, a drug approved for mucormycosis, can itself cause Cushing's syndrome.<sup>[9]</sup> Tele-COVID care often fails to determine the exact time and clinical status when steroid should be initiated or stopped, leading to its unregulated use. While corticosteroids have emerged as the holy grails in the management of COVID-19, over-the-counter (OTC) misuse of steroids by lay public is a matter of concern. Unregulated, unrestricted application of steroids by quacks and alternative medical practitioners during this pandemic will likely make the scenario even worse.<sup>[10,11]</sup> A handful of herbal medicines against COVID-19 being used by indigenous practitioners contain steroids<sup>[11,12]</sup> and their misuse will further complicate the scenario.

To curb PICS, loopholes in existing guidelines should be sealed. There should be clear recommendations regarding maximum

approved dosage and duration of steroid use in COVID-19.<sup>[6,7]</sup> To avoid prolonged ingestion of oral steroid after discharge, consensus guidelines must be released on how steroid dose is to be tapered off.<sup>[6]</sup> Prescription audit by authorities is the need of the hour. OTC sale of steroids should be banned.

Being an immunosuppressive state, PICS will lead to diminished antibody response and vaccination failure. Moreover, associated hyperglycemia and immunosuppression create a perfect milieu for repeated COVID-19 infection.<sup>[3]</sup> Physicians should be aware of the possible upsurge of PICS in times to come and should suspect it even on subtle clinical or biochemical clues. Equal vigilance is needed to detect impending Addison's crisis.

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

**Subhankar Chatterjee<sup>1</sup>,  
Ritwik Ghosh<sup>2</sup>, Bhagya Vardhan<sup>1</sup>,  
Umesh Kumar Ojha<sup>1</sup>, Sanjay Kalra<sup>3</sup>**

<sup>1</sup>Department of General Medicine, Patliputra Medical College and Hospital, Dhanbad, Jharkhand, <sup>2</sup>Department of General Medicine, Burdwan Medical College and Hospital, Burdwan, West Bengal, <sup>3</sup>Department of Endocrinology, Bharti Hospital, Karnal, Haryana, India

**Address for correspondence:** Dr. Subhankar Chatterjee, Flat No. 1/B, Shyam Plaza (Near Goal Building), Hirak Road, K G Ashram Dhanbad, Jharkhad - 828 109, West Bengal, India. E-mail: chatterjeeaspiresubhankar.92@gmail.com

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**Received:** 28-07-2021

**Accepted:** 11-12-2021

**Published:** 31-01-2022

#### Access this article online

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**Website:**  
[www.jfmpc.com](http://www.jfmpc.com)

**DOI:**  
10.4103/jfmpc.jfmpc\_1523\_21

**How to cite this article:** Chatterjee S, Ghosh R, Vardhan B, Ojha UK, Kalra S. An epidemic of iatrogenic Cushing's syndrome in anticipation in post-COVID era. *J Family Med Prim Care* 2022;11:412-3.

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