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.[1,2] 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.[3,4] Current guidelines recommend steroids in hypoxic COVID-19 patients to decrease severity and mortality.[5] 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.[6] A study reveals that there is considerable variation in steroid dose, form, initiation, and stopping criteria among physicians.[7] 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).[8,9] Inhalational corticosteroids, approved this year for mild COVID-19 cases, can also lead to PICS, if used unrestricted.[8] Although still not reported in the context of COVID-19, posaconazole, a drug approved for mucormycosis, can itself cause Cushing’s syndrome.[9] 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.[10,11] A handful of herbal medicines against COVID-19 being used by indigenous practitioners contain steroids[11,12] 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.[6,7] To avoid prolonged ingestion of oral steroid after discharge, consensus guidelines must be released on how steroid dose is to be tapered off.[8] 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.[8] 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 Chatterjee¹, Ritwik Ghosh², Bhagya Vardhan¹, Umesh Kumar Ojha¹, Sanjay Kalra³

¹Department of General Medicine, Patliputra Medical College and Hospital, Dhanbad, Jharkhand, ²Department of General Medicine, Burdwan Medical College and Hospital, Burdwan, West Bengal, ³Department 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, Jharkhand - 828 109, West Bengal, India. E-mail: chatterjeeaspiresubhankar.92@gmail.com

References

1. Pal R, Bhadada SK, Misra A. Resurgence of COVID-19 and diabetes in India. Diabetes Metab Syndr 2021;15:1037-8.
2. Singh AK, Singh R, Joshi S, Misra A. Mucormycosis in COVID-19: A systematic review of cases reported worldwide and in India. Diabetes Metab Syndr 2021;15:102146.
3. Chatterjee S, Ghosh R, Riswas P, Dubey S, Guria RT, Sharma CB, et al. COVID-19: The endocrine opportunity in a pandemic. Minerva Endocrinol 2020;45:204-27.
4. Shang L, Zhao J, Hu Y, Du R, Cao B. On the use of corticosteroids for 2019-nCoV pneumonia. Lancet 2020;395:683-4.
5. Rochwerg B, Siemieniuk RA, Agoritsas T, Lamontagne F, Askie L, Lytvyn L, et al. A living WHO guideline on drugs for covid-19. BMJ 2020;370:m3379.
6. Juneja D, Jain R, Singh O. Practice pattern of critical care physicians in India for use of corticosteroids in COVID-19. J Assoc Physicians India 2021;69:50-4.

© 2022 Journal of Family Medicine and Primary Care | Published by Wolters Kluwer - Medknow 412
7. Mishra GP, Mulani J. Corticosteroids for COVID-19: The search for an optimum duration of therapy. Lancet Respir Med 2021;9:e8.

8. Raveendran AV. Inhalational steroids and iatrogenic Cushing’s syndrome. Open Respir Med J 2014;8:74-84.

9. Pilmis B, Coignard-Biehler H, Jullien V, Hermine O, Touraine P, Lecuit M, et al. Iatrogenic Cushing’s syndrome induced by posaconazole. Antimicrob Agents Chemother 2013;57:5727-8.

10. The Indian Express. Quack caught prescribing medicine to control breathlessness in Delhi containment zone. 2020. Available from: https://indianexpress.com/article/cities/delhi/quack-caught-prescribing-medicine-to-control-breathlessness-in-delhi-containment-zone-6393421/. [Last accessed on 2021 May 23].

11. Hindustan Times. Bengal to use quacks as first line of defence against Covid-19. 2021. Available from: https://www.hindustantimes.com/cities/kolkata-news/bengal-to-use-quacks-as-first-line-of-defence-against-covid-19-101620285651026.html. [Last accessed on 2021 May 23].

12. Silveira D, Prieto-Garcia JM, Boylan F, Estrada O, Fonseca-Bazzo YM, Jamal CM, et al. COVID-19: Is there evidence for the use of herbal medicines as adjuvant symptomatic therapy? Front Pharmacol 2020;11:581840.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Received: 28-07-2021
Accepted: 11-12-2021
Published: 31-01-2022