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ability to reduce inflammation and, ideally, fibrosis. However, the absence of benefit on overall survival has discouraged their use³ to the point that WHO guidance on management of COVID-19 advises against corticosteroids, unless indicated for other reasons.⁴ Adrenal insufficiency is one of those reasons and standard care suggests to apply the so-called sick day rules when COVID-19 is suspected.⁵

Patients with adrenal insufficiency have an increased risk of infection due to their depleted innate immunity, characterised by increased monocytes and decreased cytotoxic natural killer cells,⁶ which could facilitate the worsening of a SARS-CoV-2 infection into severe acute respiratory distress syndrome. Given the role of the HPA axis in stress priming the immune response, patients with adrenal insufficiency are intuitively at high risk of infection, especially as corticosteroid therapy during infection is still largely tailored empirically, often disregarding timing and dosage. The rationale of the more the better avoids risking inadequate concentrations of corticosteroids. However, mild COVID-19 symptoms such as fatigue, malaise, gastrointestinal symptoms, and diarrhoea are common in patients with adrenal insufficiency, and patients' fears might lead them to increase their dose unnecessarily. Establishing the correct timing of stress dose administration relative to the degree of inflammatory damage and the desired effect on the immune system is crucial—ie, not too early, not too late.

Given that hydrocortisone clearance decreases with stress, in mild symptomatic COVID-19 it seems safe to replace the missing stress-induced cortisol rise with additional doses (at least doubling the original regimen). In cases of persistent fever or progression of respiratory damage to severe pneumonia, an initial bolus of 50–100 mg of hydrocortisone followed by continuous intravenous infusion of 200 mg of hydrocortisone would be the most appropriate

replacement for patients with adrenal insufficiency.⁷ Such regimen can reduce the harmful effects of peaks and troughs of hydrocortisone on the immune system,⁷ and the length of stay in an intensive care unit.⁸ Hydration and electrolyte balance should also be corrected promptly, as severe hypotension is very frequent with disease progression. There is also increasing concern over the disseminated thromboembolic disease observed in severe COVID-19. Given the coagulation abnormalities associated with glucocorticoid use, low molecular weight heparin should be introduced early.⁹

In summary, tailoring of glucocorticoid stress regimens in COVID-19 requires a more evidence-based approach. The pathophysiology of immune response and the systemic complications associated with a SARS-CoV-2 infection set the pace, and the protocol should be adapted to the patient's clinical stage.

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Managing diabetes in Qatar during the COVID-19 pandemic

The coronavirus disease 2019 (COVID-19) pandemic has immediate implications for people with diabetes. Diabetes diminishes immune function, which contributes to a higher risk of severe COVID-19 infection requiring intensive care and a higher fatality rate than is associated with people who do not have diabetes.^{1–3} Glycaemic control can also be challenging with COVID-19, placing more burden on a fatigued health-care system. Simultaneously, people with diabetes cannot receive standard care because of resource diversion towards COVID-19. Key challenges for diabetes care during the pandemic include reduced access to health care, education, investigations, monitoring supplies, medications, and vaccinations. Furthermore, isolation measures result in increased food intake, reduced physical activity, irregular schedules translating to glycaemic

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deterioration, and increased anxiety and depression.

Qatar has one of the highest prevalence estimates of diabetes (17%) in the world,⁴ placing a substantial proportion of the population at risk of severe COVID-19 infection. Diabetes in Qatar has an earlier age of disease onset and complications than is seen in western populations.⁴ To tackle the serious challenge of COVID-19 and diabetes, Qatar has established a programme to mobilise resources to ensure that people with diabetes are protected through a coordinated collaborative team response across primary and secondary care. People with diabetes have been provided with a helpline to support diabetes care and mental health. An ongoing media campaign for patient guidance on COVID-19 and diabetes has been initiated, reinforced through direct text messages regarding COVID-19 measures, sick day rules, self-monitoring, medication management, diabetes complications, lifestyle, psychological health, and Ramadan fasting. By use of electronic medical records, patients with poor diabetes control (Glycated haemoglobin A1c >8%) who are treated with insulin and aged older than 50 years will be initially engaged through teleconsultations by physicians and diabetes educators. These teleconsultations aim to improve glycaemic control by diabetes medication optimisation and to reinforce adherence to lipid-lowering and antihypertensive medications. A key aspect of the programme is optimising vitamin D to protect against acute respiratory infection.⁵ Home delivery has been set up for medications and supplies. The programme has been facilitated by an established and successful national diabetes strategy. Collaboration with industry will facilitate access to both diabetes supplies and mobile apps for remote patient monitoring.

At a time when focus is on the immediate COVID-19 problem, it

is important to not neglect people who might be at the highest risk, as they will be affected both directly and indirectly. It is vital for all health services to have a strategy for managing diabetes in epidemics and to share their knowledge and experience to face current and future challenges.

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COVID-19 and obesity—lack of clarity, guidance, and implications for care

Coronavirus disease 2019 (COVID-19), caused by a virus called severe acute respiratory syndrome

coronavirus 2 (SARS-CoV-2), was announced as a global pandemic by WHO on 11 March, 2020. Although COVID-19 is not life-threatening in most people, it can be lethal for others. The exact mortality rate varies greatly between regions and countries, particularly with an increased risk of death in people aged 70 years and older.¹ Because of its high transmissibility, COVID-19 has challenged health-care systems worldwide, leading to pressure on intensive care beds in Italy with 9–11% of the people infected with COVID-19 requiring intensive care admission.² As a result, countries took various actions to flatten the curve to allow health-care systems to cope with the demand.

On 23 March, 2020, the UK Government released “Guidance for social distancing for everyone in the UK”. This guidance, among others, is much needed to reduce infection and potential spread of COVID-19. Within this guidance, several factors are identified as increasing a person’s vulnerability of severe illness, and as a result, efforts to maintain social distancing is to be more stringent for these groups.

One factor that has been identified as increasing a person’s vulnerability of severe illness is a BMI of 40kg/m² or higher, a cutoff that was also listed as an independent risk factor by the USA Centers for Disease Control and Prevention. Although it is recognised that a higher BMI has been associated with greater risk of type 2 diabetes, cardiovascular disease, and hypertension, all of which are predictors of poor outcomes in COVID-19,³ to date, no available data show adverse COVID-19 outcomes specifically in people with a BMI of 40kg/m² or higher. This absence of data might explain why, unlike with other factors identified as reasons for a higher-risk status, there is a paucity of information to explain the reason why people with a BMI of 40kg/m² or higher, as an independent risk factor,

For the **Guidance on social distancing in the UK** see <https://www.gov.uk/government/publications/covid-19-guidance-on-social-distancing-and-for-vulnerable-people/guidance-on-social-distancing-for-everyone-in-the-uk-and-protecting-older-people-and-vulnerable-adults>

For more on the **guidance from CDC** see <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/groups-at-higher-risk.html>

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