

Dexamethasone for the treatment of Covid-19 in Adults

Background

A statement from the Chief Investigators of the RECOVERY trial was published on June 16th 2020¹. A total of 2104 patients were randomised to receive dexamethasone and compared with 4321 randomised to usual care alone. Dexamethasone reduced 28-day mortality by one-third in ventilated patients (rate ratio 0.65 [95% CI 0.48 to 0.88]; p=0.0003) and by one-fifth in patients receiving only oxygen (0.8 [0.67 to 0.96]; p= 0.0021). There was no benefit in patients who did not require respiratory support.

A therapeutic alert was issued on the same day advising clinicians to consider dexamethasone for the management of hospitalised patients with COVID-19 who require oxygen or ventilation².

The RECOVERY trial investigators have produced a manuscript pre-print but as yet no peer reviewed publication is available³.

Indication

Hospitalised patients requiring treatment with either oxygen therapy, non-invasive or invasive ventilation or ECMO for PCR confirmed / clinically presumed COVID-19

Cautions

Patients with known diabetes can be prescribed dexamethasone to treat COVID. On ICU/HDU they should be managed with intravenous insulin infusion.

On general wards, patients with diabetes will need capillary blood glucose (cbg) monitoring at least four times a day or more frequently if glucose is outside the 6 – 10mmol/L range. Be mindful that in people with diabetes and COVID-19 there can be a marked rise in glucose levels warranting an increase in treatment or commencement of insulin. Remember to check ketones if the glucose remains ≥ 14 mmol/L. Please refer to the diabetes in-patient nurse using the intranet online form if advice needed.

Patients are all likely to have a venous blood gas which will have a random glucose. All patients without known diabetes should also have an HbA_{1c} checked at admission.

- If glucose ≥ 12 mmol/L and / or HbA_{1c} ≥ 48 mmol/mol – treat as someone with diabetes
- If glucose < 12 mmol/L and HbA_{1c} < 48 mmol/mol – check cbg initially four times a day; pre-meals and bedtime to check for steroid induced hyperglycaemia. If after 48 hours, all glucose results are < 10 mmol/L, frequency of cbg can be reduced to once daily (pre-evening meal) until dexamethasone is stopped.
- If cbg > 12 mmol/L twice in 24 hours, consider starting oral diabetes medication

Click [here](#) for more information about the management of diabetes in people with COVID-19 on steroids on general wards.

Elderly, frail patients may be particularly at risk of steroid-induced confusional states.

Gastroprotection is not routinely indicated for prophylaxis of peptic ulceration in patients using oral corticosteroids⁴. In people at high risk of gastrointestinal bleeding or dyspepsia prescribe **lansoprazole 15mg once daily for 10 days**.

Dexamethasone for the treatment of Covid-19 in Adults

Risk factors include, but are not limited to, age > 65 years, history of gastroduodenal ulcer or bleeding, excessive alcohol consumption, concomitant medications that are known to increase risk e.g. anti-platelets, anticoagulants, NSAIDs and SSRIs.

For all patients an assessment of individual patient risk factors should be undertaken. This should involve the consultant with responsibility for the patient taking necessary advice from Infectious Diseases, Endocrinology, Frailty as appropriate. The patient or an appropriate consultee should be made aware this is an off-label treatment.

The decision making process should be documented in the patients' notes.

Dosage

Dexamethasone PO 6mg once daily for 10 days or until hospital discharge (tablets may be dissolved in 10mL water and administered via an enteral feeding tube)

OR

Dexamethasone IV 6mg once daily for 10 days or until hospital discharge (equivalent to 1.8mL of 3.3mg/mL injection)

Pregnancy & Breastfeeding

Prednisolone PO 40mg once daily for 10 days or until hospital discharge (tablets may be dissolved in 10mL water and administered via an enteral feeding tube)

OR

Hydrocortisone IV 80mg twice daily for 10 days or until hospital discharge

Paediatrics

The use in children is still being studied and the evidence of benefit is unproven.

Adverse Drug Reactions (ADRs)

Any suspected ADRs for patients receiving dexamethasone for this indication should be reported directly to the MHRA via the dedicated COVID 19 yellow card reporting site at <https://coronavirus-yellowcard.mhra.gov.uk>

References

1. Statement from the Chief Investigators of the RECOVERY trial on dexamethasone. 16th June 2020.
https://www.recoverytrial.net/files/recovery_dexamethasone_statement_160620_final.pdf
2. MHRA COVID-19 Therapeutic Alert. Dexamethasone in the treatment of COVID-19. 16th June 2020.
<https://www.cas.mhra.gov.uk/ViewAndAcknowledgment/viewAlert.aspx?AlertID=103054>
3. Horby PW, Landray MJ *et al* (RECOVERY collaborative group). Effect of Dexamethasone in Hospitalized Patients with COVID-19: Preliminary Report. 22nd June 2020
<https://www.medrxiv.org/content/10.1101/2020.06.22.20137273v1.full.pdf>
4. NICE CKS. Corticosteroids – oral. Last revised May 2020.
<https://cks.nice.org.uk/corticosteroids-oral#!scenario>