

Category : **Glucose control**

A159 - Management of steroid induced hyperglycaemia in patients critically unwell with covid19

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Introduction:

The aim of this study was to improve treatment of corticosteroid induced hyperglycaemia in patients critically unwell with COVID19. Management with high dose steroids reduces mortality and has become standard practice. However, high dose glucocorticoid therapy impairs glucose metabolism in patients already at risk of insulin resistance and impaired insulin production, resulting in increased incidence of hyperglycaemia [1].

Methods:

A retrospective audit was undertaken, collecting data on steroid use, glycaemic control, and insulin treatment in 100 patients admitted to the Royal Cornwall Hospital Intensive Care Unit with COVID19. A standard operating procedure (SOP) for the treatment of steroid induced hyperglycaemia was created, based on guidelines from the National Inpatient Diabetes COVID19 Response Group [1].

Results:

Of 100 patients, 91 received high dose steroids. The majority (64.8%) experienced glycaemic control issues, defined as one episode of blood sugar >12mmol/L. Of the patients treated with 6mg dexamethasone 52% experienced hyperglycaemia, compared to 71% of those treated with higher steroid doses. There was no significant difference in the highest blood sugar level of either cohort ($t_{54} = -.450, p = .654$). The average time between first episode of hyperglycaemia and commencement of insulin was 76 hours. There was a lack of consensus in management of steroid-induced hyperglycaemia – no treatment was administered in 37% of patients. In those who were treated, 19 different combinations of insulin were given. Sliding scale insulin was administered in most patients who experienced no further hyperglycaemia.

Conclusion:

These results highlight a necessity for consensus management of steroid induced hyperglycaemia. In line with these findings, the devised SOP recommends initial therapy with rapid acting insulin and administration of a sliding scale if hyperglycaemia persists.

References:

1. Rayman, G. et al. Diabetic Medicine 38:1 e14378, 2020