Results: Of 9230 randomized patients, 2293 (24.8%) received baseline corticosteroids. Patients with baseline corticosteroids had higher blood glucose concentrations and insulin needs than patients without corticosteroids. There was significant interaction between baseline corticosteroids and randomization to TGC vs LGC on occurrence of in-ICU delirium, reduced from 33.1% to 27.5% in the first week ($P = .005$) with TGC for patients on corticosteroids only. At 2-year follow-up, significant interaction was present for mortality and mental health outcomes. For patients on corticosteroids only, TGC reduced 2-year mortality from 32.8% to 28.7% ($P = .03$), improved SF-36 mental component scores from 44.5 ± 12.8 to 46.0 ± 12.8 ($P = .02$), and improved subscores for vitality ($P = .03$) and mental health ($P = .03$). Similar results were obtained after adjustment for baseline risk factors.

Conclusions: Corticosteroids in ICU increased the severity of hyperglycemia and TGC in corticosteroid-treated patients reduced in-ICU delirium and improved long-term survival and mental health outcomes.

Reference

1. Gunst JD, Søgaard OS. Host receptor targeting to treat Covid-19. *NEJM Evid*. 2023;2(11):EVIDe2300222. https://doi.org/10.1056/EVIDe2300222

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EP469 - ECE_1901 - Acute and long-term impact of tight vs liberal blood glucose control in corticosteroid-treated critically ill patients

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Introduction: Iatrogenic severe hyperglycemia by early parenteral nutrition (PN) was shown harmful in critical illness. We hypothesized that corticosteroids in ICU are another iatrogenic cause of severe hyperglycemia, increasing vulnerability for its acute and long-term harmful effects.

Methods: The hypothesis was tested in a secondary analysis of the multicenter TGC-Fast trial, in which patients not receiving early PN were randomized to tight (TGC) or liberal (LGC) glucose control.[1] We assessed whether baseline corticosteroids, defined as systemic corticosteroids initiated on ICU d-1 or 2, statistically interacted with randomization for impact on acute and 2-year outcomes via multivariable regression. The effect of TGC vs LGC was reported for patients with and without baseline corticosteroids, unadjusted and adjusted for baseline risk factors. $P < .05$ and interaction-$P < .1$ were considered significant.